

CHANCELET COURT STORM DRAIN IMPROVEMENTS

ROCKVILLE, MARYLAND 20850

- ## STORM DRAIN & PAVING NOTES

- ## AS-BUILT CERTIFICATE

TITLE _____ DATE _____

VICINITY MAP

SCALE: 1"=1000'



DESIGN AND QUANTITIES CERTIFICATION

STATE OF MARYLAND
NICHOLAS A. BARR, P.E.
33772
PROFESSIONAL ENGINEER
3/21/13

3/21/

CERTIFICATION:

CERTIFICATION:
THESE DOCUMENTS

APPROVED BY M
 LICENSED

ONLY LICENSED PERSONS
UNDER THE LAWS OF

LICENSE NO.: _____

DATE: 06/16/2013

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IS	APF
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E | DRAWING

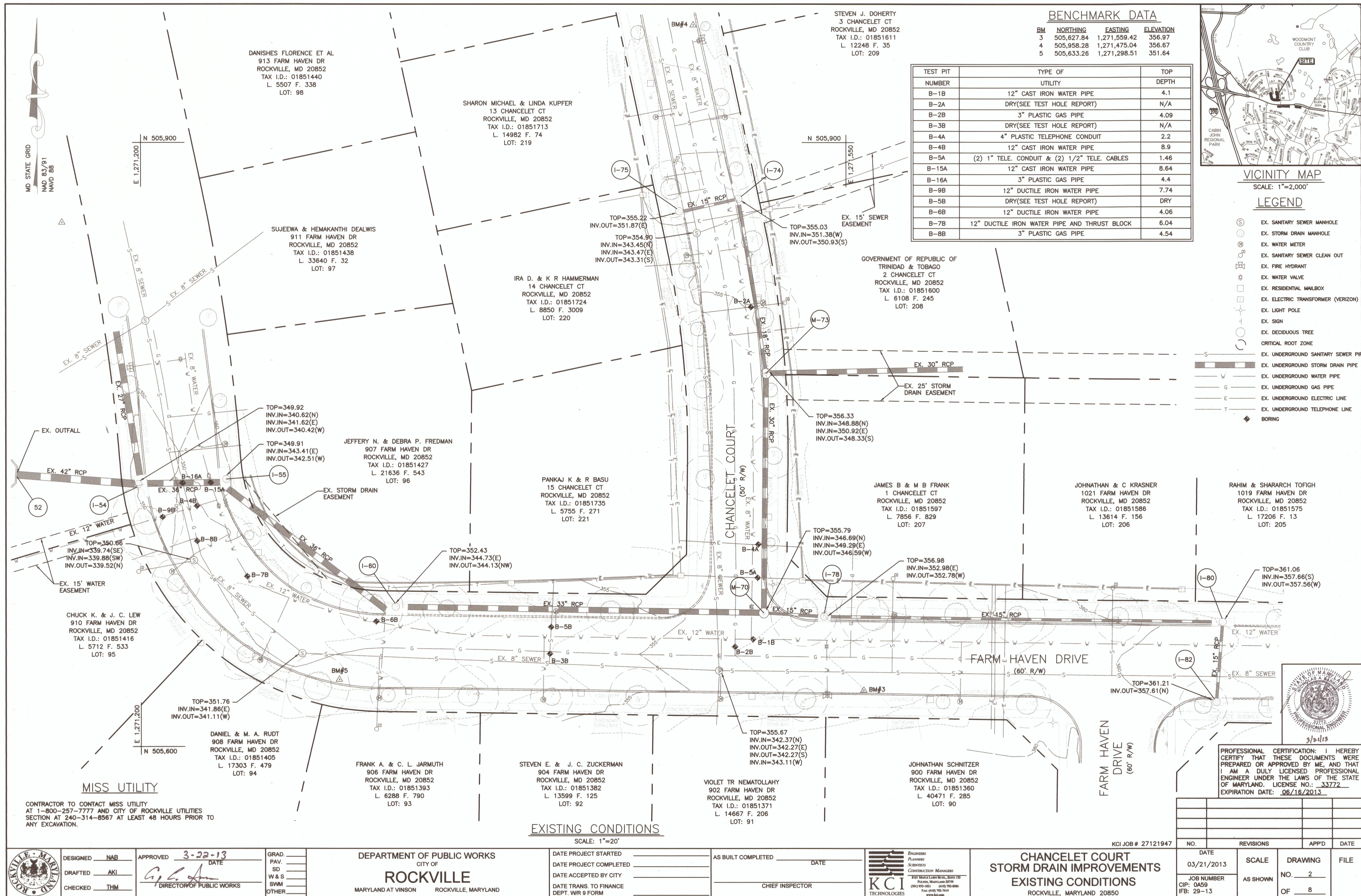
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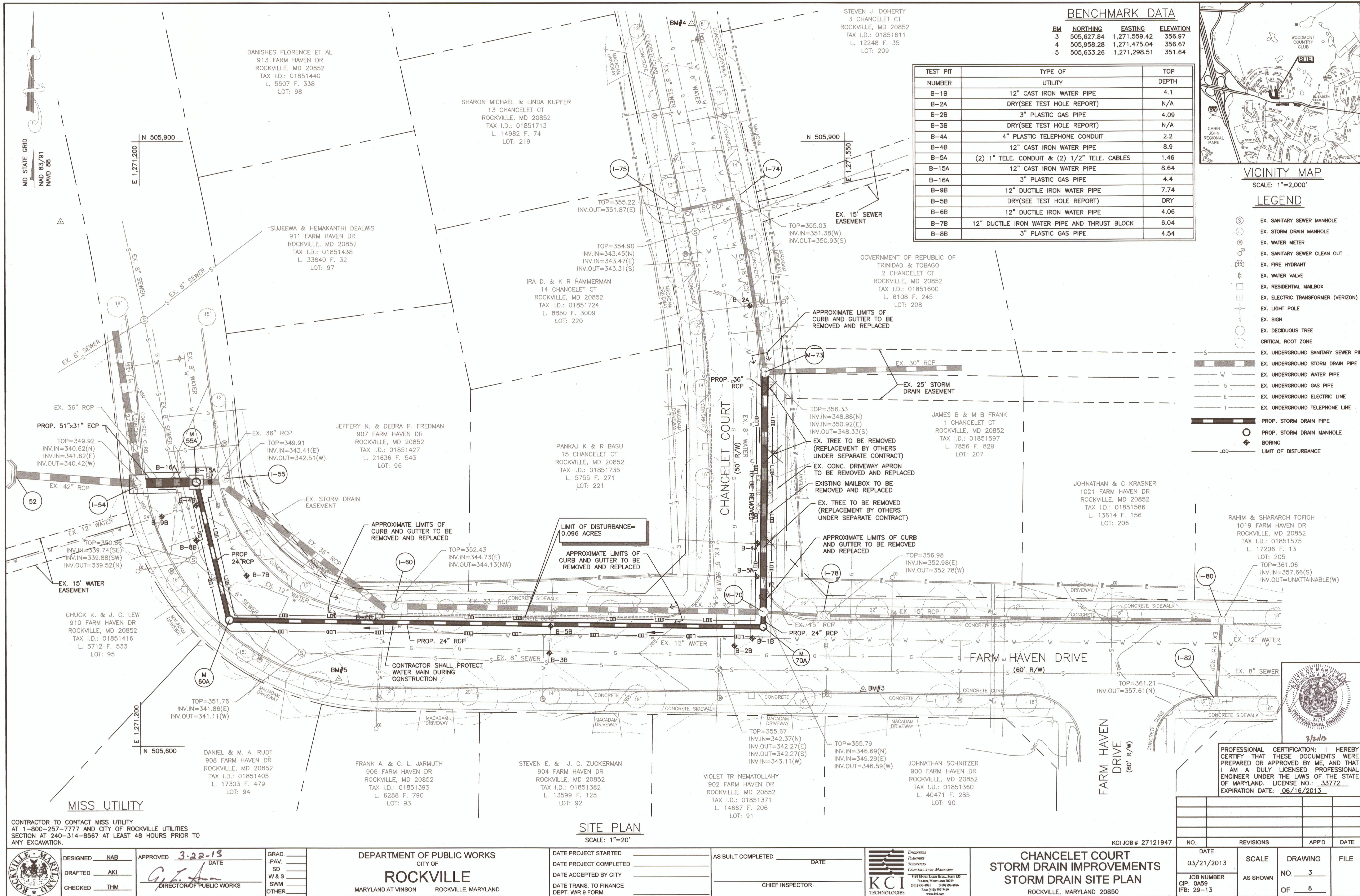
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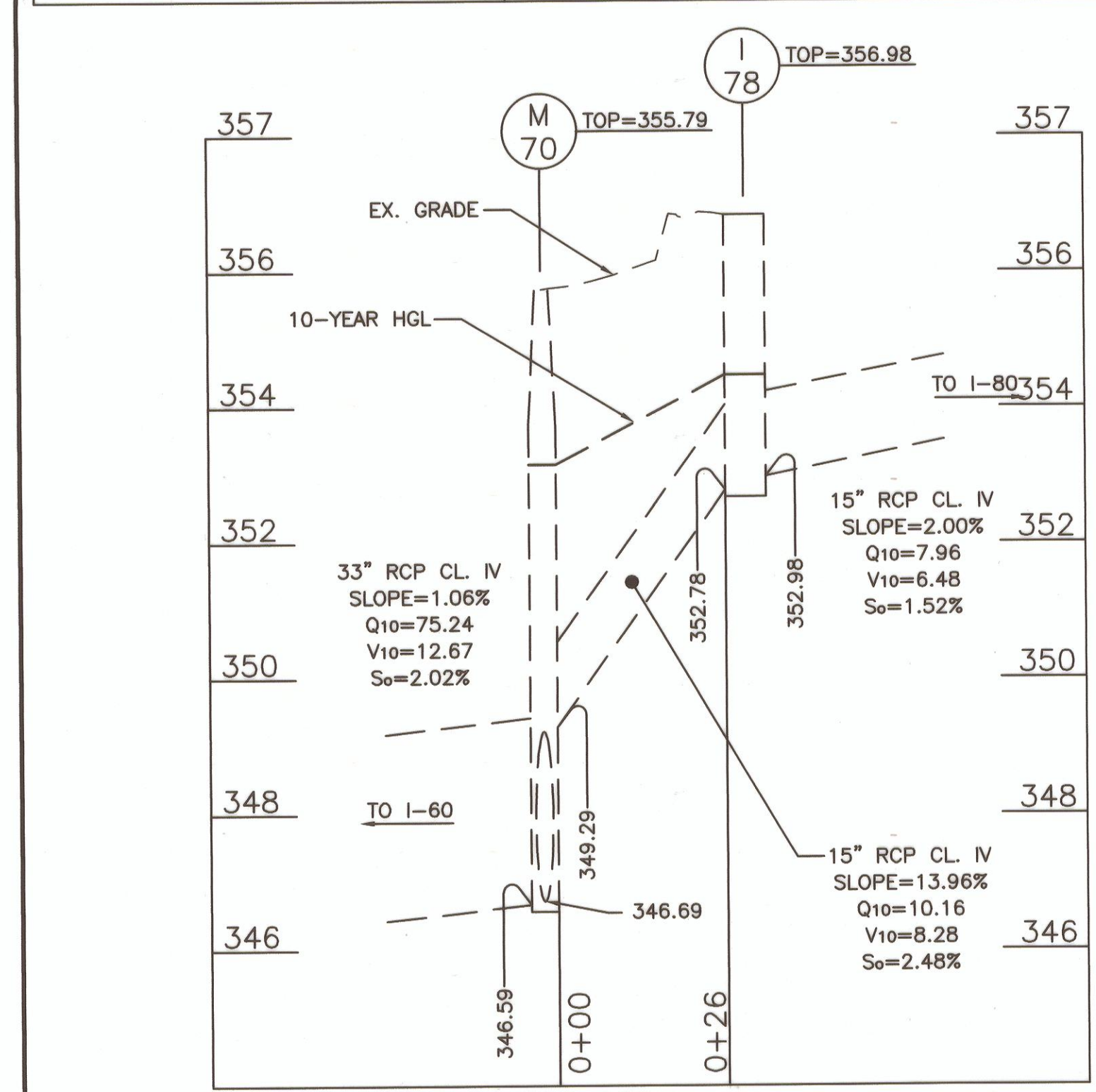
OF 8

100% CI

100% SL







SCALE: HOR: 1"=20'
 VERT: 1"=2'



STATE OF MARYLAND
NICHOLAS A. BARRIS
PROFESSIONAL ENGINEER
93772
3/21/13

PROFESSIONAL CERTIFICATION: I HEREBY
CERTIFY THAT THESE DOCUMENTS WERE
PREPARED OR APPROVED BY ME, AND THAT
I AM A DULY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE
OF MARYLAND. LICENSE NO.: 33772
EXPIRATION DATE: 06/16/2013

7	NO.	REVISIONS	APP'D	DATE
	DATE 03/21/2013		SCALE AS SHOWN	DRAWING NO. <u>4</u> OF <u>8</u>
	JOB NUMBER CIP: 0A59 IFB: 29-13			FILE



DESIGNED NAB
DRAFTED AKI
CHECKED THM

APPROVED 3-22-13 DATE
G. L. A.
DIRECTOR OF PUBLIC WORKS

GRAD. _____
PAV. _____
SD _____
W & S _____
SWM _____
OTHER _____

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
MARYLAND AT VINSON ROCKVILLE, MARYLAND

DATE PROJECT STARTED
DATE PROJECT COMPLETED
DATE ACCEPTED BY CITY
DATE TRANS. TO FINANCE
DEPT. W/ 9 FORM

AS BUILT COMPLETED _____, DATE _____

CHIEF INSPECTOR

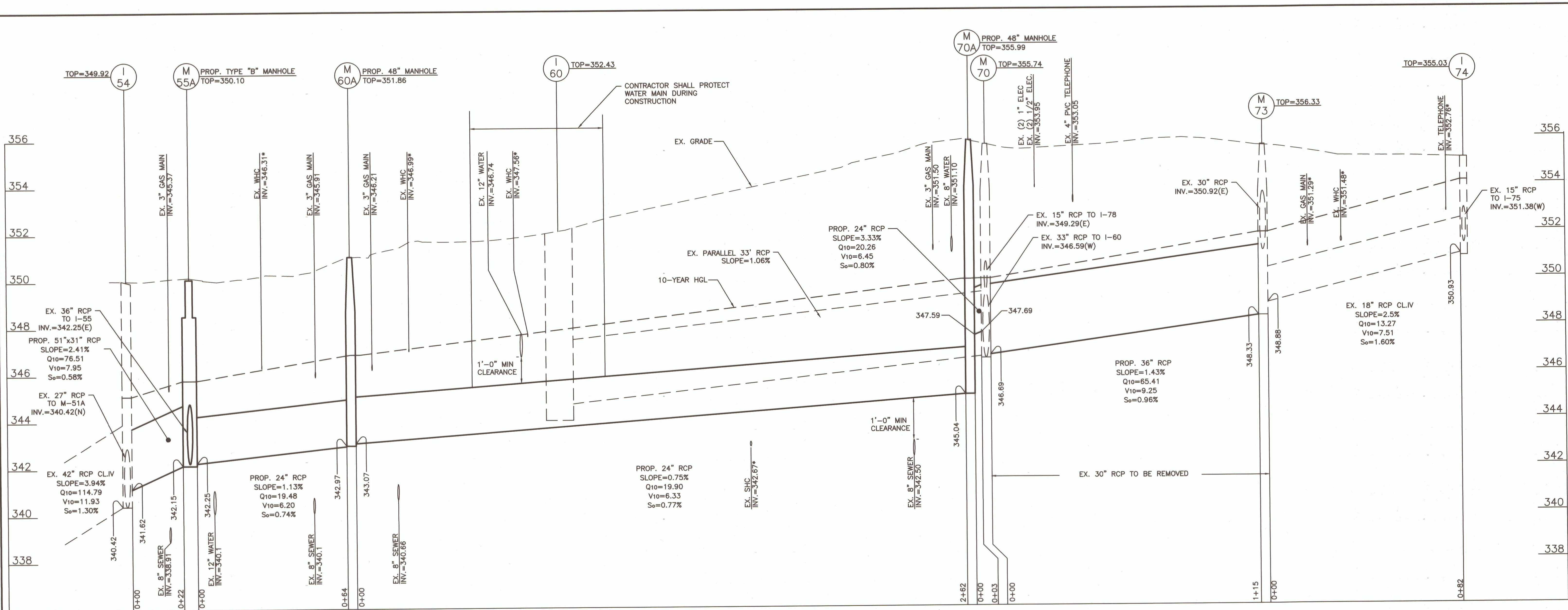


ENGINEERS
PLANNERS
SCIENTISTS
CONSTRUCTION MANAGERS

8161 MAPLE LAWN BLVD., SUITE 1
FULTON, MARYLAND 20759
(301) 953-1821 (410) 792-808
FAX: (410) 792-7419
www.jac.com

CHANCELET COURT STORM DRAIN IMPROVEMENTS EXISTING CONDITIONS PROFILE

100% SUBMITTAL

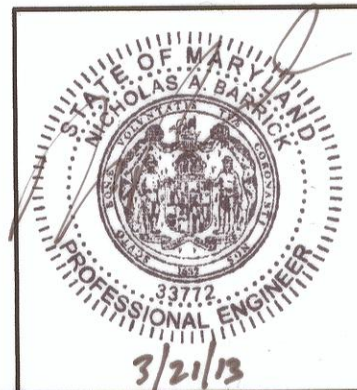


NOTE: ELEVATIONS SHOWN WITH A "*" ARE ASSUMED. CONTRACTOR TO VERIFY DEPTH, TYPE AND LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

STORM DRAIN PROFILE I-54 TO I-74
SCALE: HOR: 1"=20'
VERT: 1"=2'

PIPE SCHEDULE		
SIZE	LENGTH	CLASS
24" RCP	329	IV
36" RCP	115	IV
51x31 ERCP	22	IV

STRUCTURE SCHEDULE								
NO.	TYPE	TOP	INV. IN	INV. IN	INV. OUT	NORTHING	EASTING	REMARKS
M-70A	48" TYPE 'A' MANHOLE	355.99	---	347.59	345.04	505658.96	1271509.67	STANDARD NO. MC-510.01
M-60A	48" TYPE 'A' MANHOLE	351.86	---	342.97	343.07	505662.64	1271244.26	STANDARD NO. MC-510.01
M-55A	7'x7' TYPE 'B' MANHOLE	350.10	343.25	342.25	342.15	505731.03	1271227.94	STANDARD NO. MC-515.01



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NO.	REVISIONS	APP'D	DATE



DESIGNED: NAB
DRAFTED: AKI
CHECKED: THM

APPROVED: 3-22-13
DATE: 3-22-13
DIRECTOR OF PUBLIC WORKS

GRAD: _____
PAV: _____
SD: _____
W & S: _____
SWM: _____
OTHER: _____

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
MARYLAND AT VINSON ROCKVILLE, MARYLAND

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DATE PROJECT COMPLETED: _____
DATE ACCEPTED BY CITY: _____
DATE TRANS. TO FINANCE: _____
DEPT. W/R 9 FORM

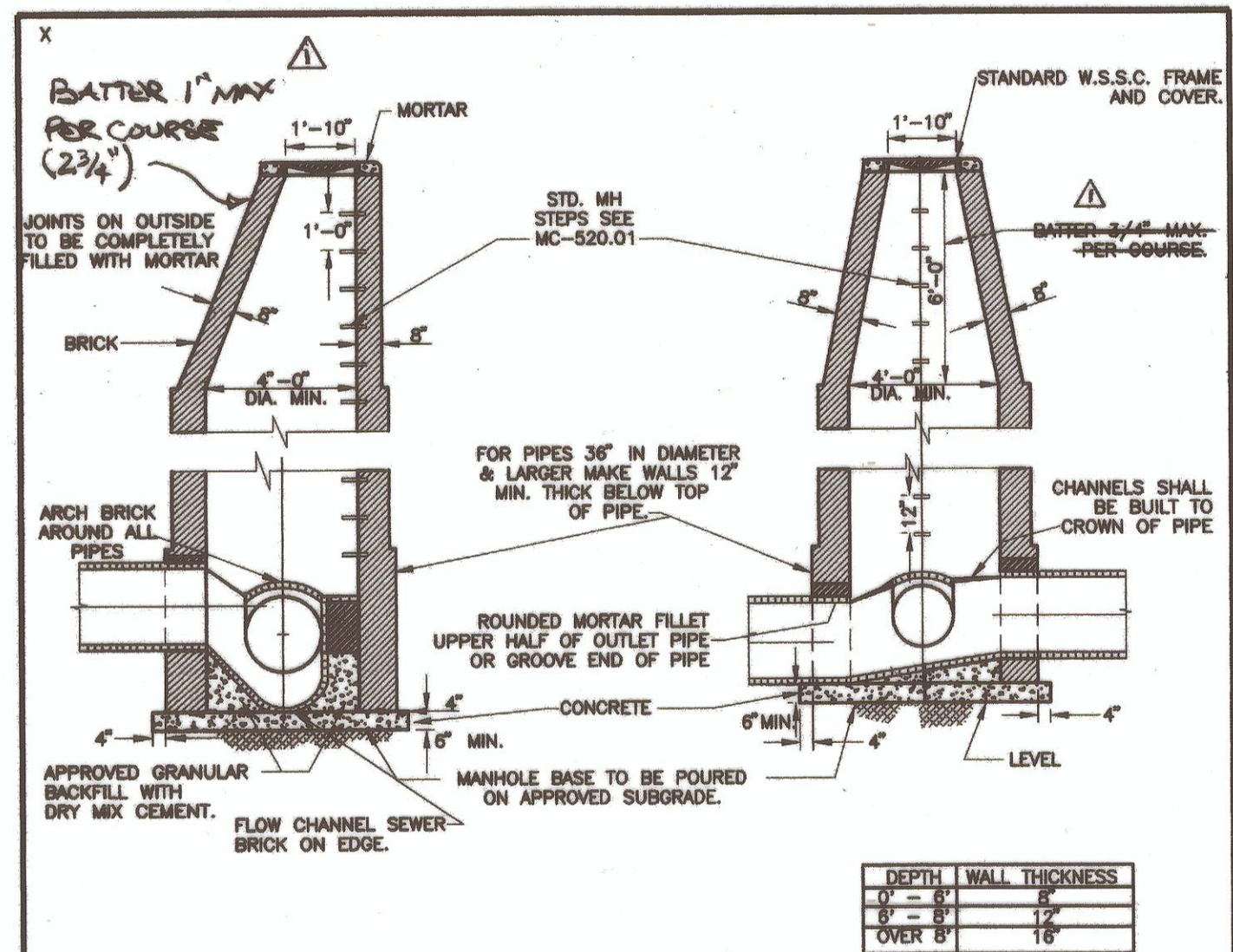
AS BUILT COMPLETED: _____ DATE: _____
CHIEF INSPECTOR: _____



CHANCELET COURT
STORM DRAIN IMPROVEMENTS
STORM DRAIN PROFILE
ROCKVILLE, MARYLAND 20850

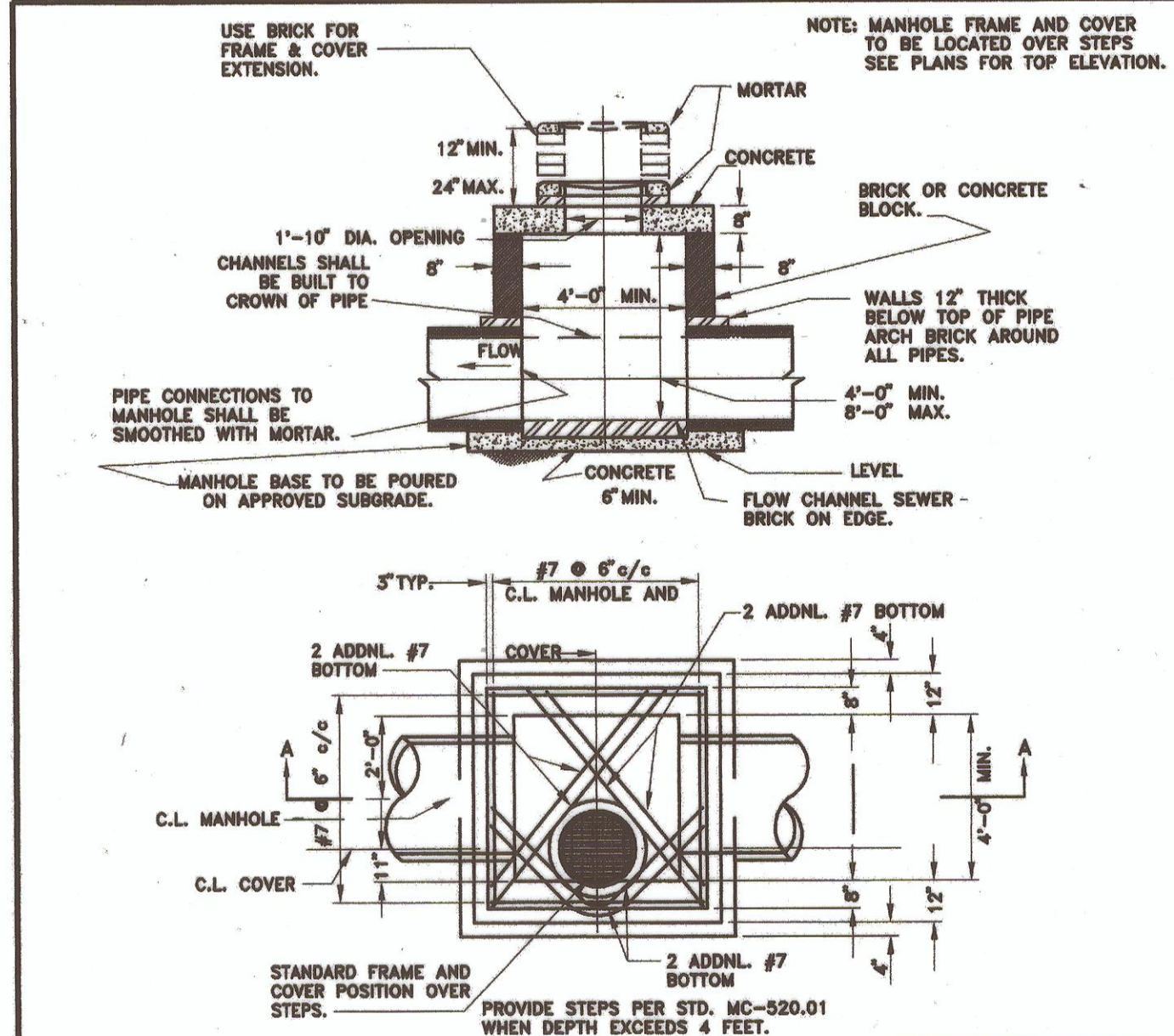
KCI JOB # 27121947

100% SUBMITTAL



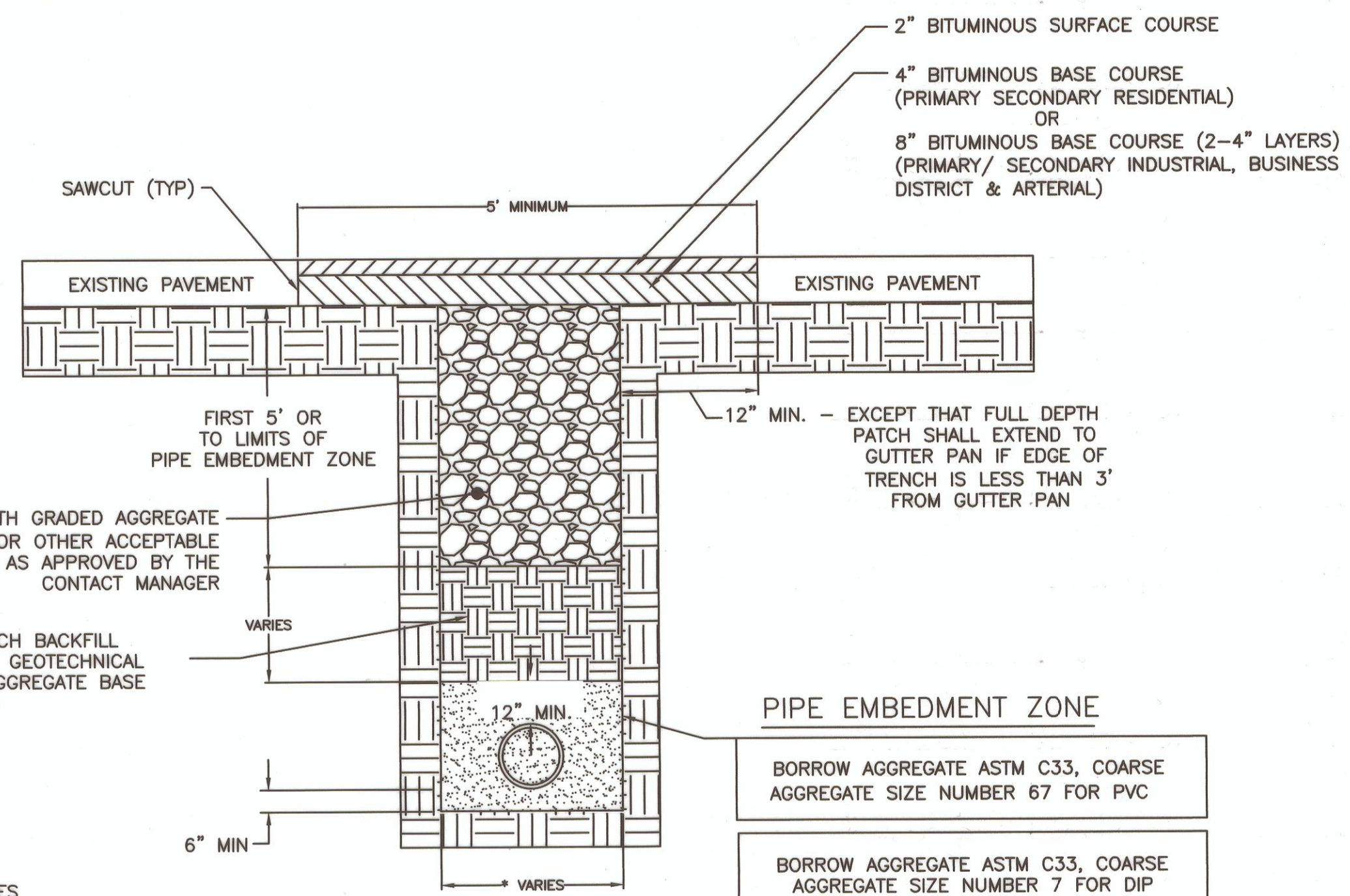
- GENERAL NOTES**
1. REFER TO MARYLAND STATE HIGHWAY ADMINISTRATION FOR MATERIALS AND METHODS OF CONSTRUCTION.
 2. USE SOLID MASONRY (BRICK OR CONCRETE BLOCK) OR POURED CONCRETE FOR WALLS.
 3. PARGE OUTSIDE WALLS.
 4. MORTAR SHALL CONFORM TO ASTM SPECIFICATION C270 TYPE M.
 5. $f_c = 3,500$ P.S.I. at 28 DAYS.
 6. FOR PIPES LARGER THAN 30" PROVIDE STEPS IN CHANNELS OF STRUCTURES. SEE STANDARD DETAIL STANDARD MC-520.02.

APPROVED <u>JAN 5/96</u>	REVISED	MONTGOMERY COUNTY
DATE		DEPARTMENT OF TRANSPORTATION
<i>[Signature]</i>	<i>[Signature]</i>	"A" MANHOLE
DIRECTOR, DEPT. OF TRANS.		
<i>[Signature]</i>		STANDARD NO. MC-510.01
CHIEF, DIV. OF ENG. SERVICES		

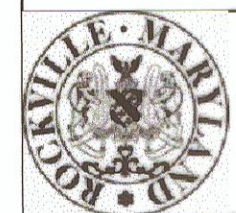


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APPROVED <u>JAN 5/96</u>	REVISED	MONTGOMERY COUNTY
DATE		DEPARTMENT OF TRANSPORTATION
<i>[Signature]</i>	<i>[Signature]</i>	"B" MANHOLE
DIRECTOR, DEPT. OF TRANS.		
<i>[Signature]</i>		STANDARD NO. MC-515.01
CHIEF, DIV. OF ENG. SERVICES		



- * TRENCH DIMENSION NOTES**
1. WATER AND SANITARY SEWER SHALL BE PER LATEST WSSC STANDARD DETAILS.
 2. STORM DRAIN SHALL BE PER MONTGOMERY COUNTY STORM DRAIN DESIGN CRITERIA CLASS C BEDDING CONDITIONS



APPROVED BY: _____

DATE: _____

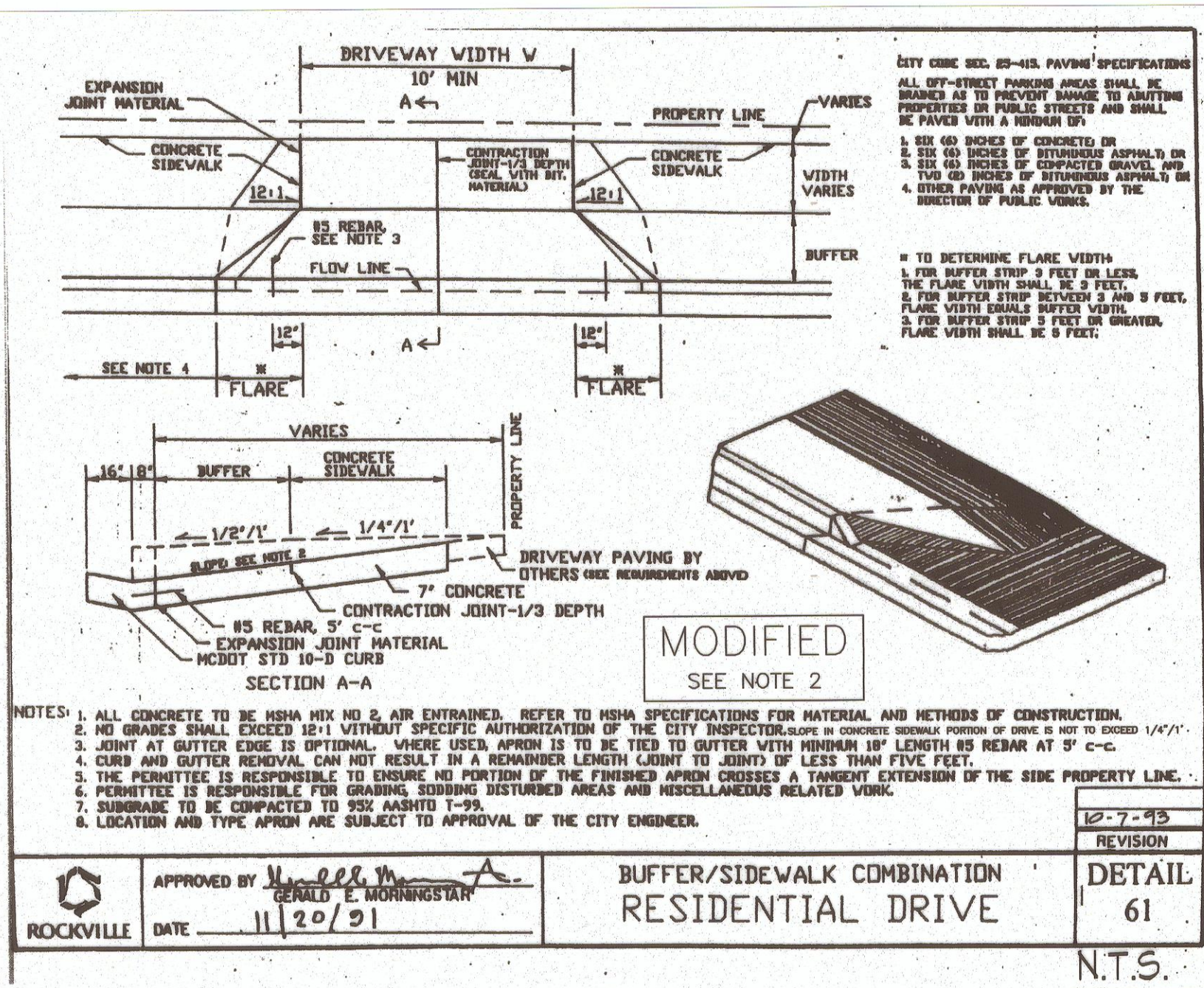
PIPE TRENCH DETAIL

6-15-2012
7-12-2010
4-96
REVISION
DETAIL 60

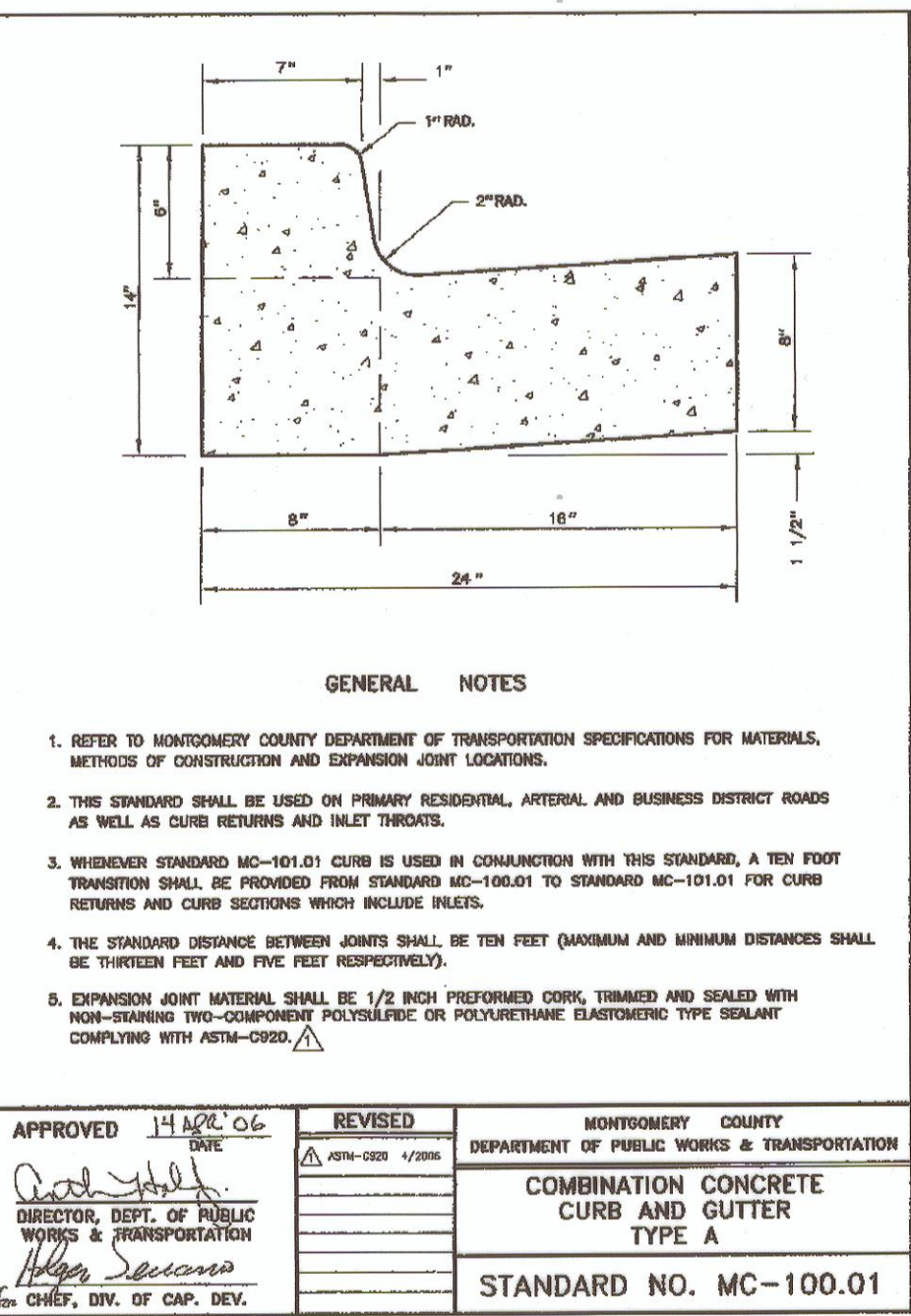
① MC TYPE A MANHOLE

N.T.S. ② MC TYPE B MANHOLE

N.T.S.



APPROVED <u>11/20/91</u>	REVISION	DETAIL 61
DATE		
<i>[Signature]</i>	<i>[Signature]</i>	MODIFIED DRIVEWAY APRON
DIRECTOR, DEPT. OF PUBLIC WORKS		
<i>[Signature]</i>		STANDARD NO. MC-100.01
CHIEF, DIV. OF CAP. DEV.		



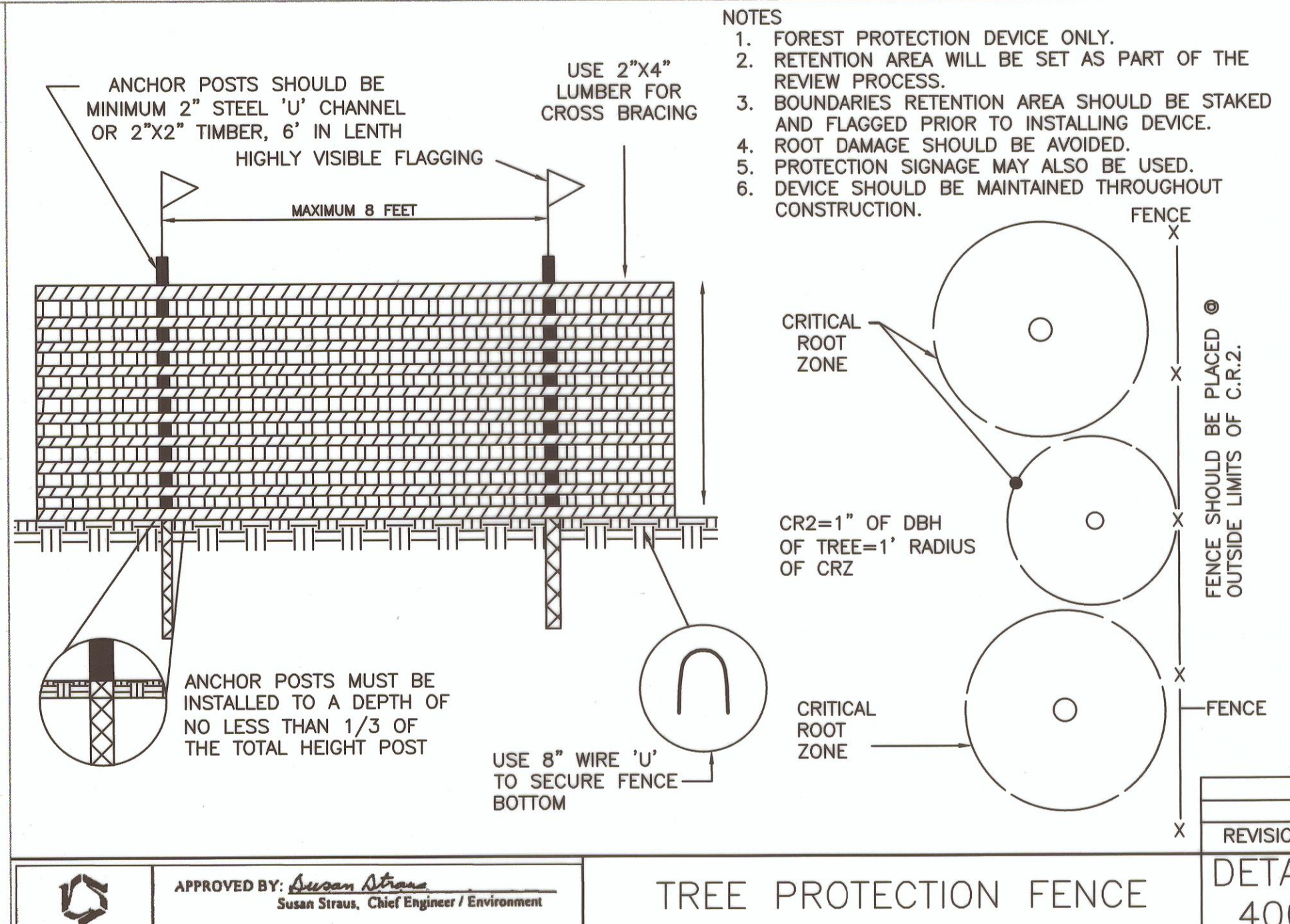
APPROVED <u>11/20/91</u>	REVISION	DETAIL 61
DATE		
<i>[Signature]</i>	<i>[Signature]</i>	MODIFIED DRIVEWAY APRON
DIRECTOR, DEPT. OF PUBLIC WORKS		
<i>[Signature]</i>		STANDARD NO. MC-100.01
CHIEF, DIV. OF CAP. DEV.		

③ MODIFIED DRIVEWAY APRON

N.T.S. ④ CURB & GUTTER

N.T.S. ⑤ BLAZE ORANGE PLASTIC MESH

N.T.S.



APPROVED <u>July 22, 1996</u>	REVISION	DETAIL 400
DATE		
<i>[Signature]</i>	<i>[Signature]</i>	TREE PROTECTION FENCE
DIRECTOR, DEPT. OF ENVIRONMENT		
<i>[Signature]</i>		STANDARD NO. MC-100.01
CHIEF, DIV. OF CAP. DEV.		

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NO.	REVISIONS	APPD	DATE
1	DATE 03/21/2013	SCALE AS SHOWN	DRAWING NO. 6
2	JOB NUMBER CIP: 0A59		OF 8
3	IFB: 29-13		

DESIGNED <u>NAB</u>	APPROVED <u>3-22-13</u>	GRAD. PAV. SD W & S SWM OTHER
DRAFTED <u>AKI</u>	DATE	
CHECKED <u>THM</u>	<i>[Signature]</i>	DIRECTOR OF PUBLIC WORKS

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
MARYLAND AT VINSON ROCKVILLE, MARYLAND

DATE PROJECT STARTED	AS BUILT COMPLETED
DATE PROJECT COMPLETED	DATE
DATE ACCEPTED BY CITY	CHIEF INSPECTOR
DATE TRANS. TO FINANCE	
DEPT. WIR 9 FORM	



CHANCELET COURT STORM DRAIN IMPROVEMENTS
SITE DETAILS
ROCKVILLE, MARYLAND 20850

100% SUBMITTAL



DRAINAGE AREA MAP
SCALE: 1"=200'

DRAINAGE AREA	AREA (Ac.)	IMPERVIOUS AREA (Ac.)	"C"	Tc PATH (min.)	Tc PATH LENGTH (ft)	10-YEAR (cfs)
DA-1	2.53	0.54	0.39	15.14	360	4.90
DA-2	1.39	0.37	0.42	10.0	---	3.44
DA-3	0.30	0.05	0.36	15.0	---	0.54
DA-4	0.28	0.05	0.37	15.0	---	0.51
DA-5	0.21	0.03	0.34	15.0	---	0.36
DA-6	0.38	0.08	0.39	15.0	---	0.74
DA-7	1.16	0.11	0.31	15.0	---	1.81
DA-8	1.34	0.41	0.45	10.0	---	3.52
DA-9	1.99	0.58	0.44	10.0	---	5.12
DA-10	1.45	0.38	0.42	10.0	---	3.57
DA-11	0.89	0.26	0.44	10.0	---	2.29
DA-12	0.54	0.23	0.53	10.0	---	1.66
DA-13	2.98	0.65	0.39	15.70	592	5.72
DA-14	1.87	0.47	0.41	10.0	---	4.52
DA-15	0.87	0.21	0.41	10.0	---	2.07
DA-16	1.04	0.37	0.48	10.0	---	2.93
DA-17	1.44	0.41	0.44	10.0	---	3.67
DA-20	0.73	0.25	0.47	10.0	---	2.02
DA-21	3.02	0.90	0.44	11.77	1044	7.40
DA-22	1.89	0.74	0.50	10.0	---	5.58
DA-23	1.73	0.84	0.57	10.0	---	5.72
DA-24	1.66	0.53	0.46	10.0	---	4.44
DA-25	1.98	0.50	0.41	10.0	---	4.80
DA-26	1.35	0.44	0.46	10.0	---	3.65
DA-27	2.31	0.65	0.43	10.22	391	5.81
DA-28	0.31	0.10	0.46	10.0	---	0.83
DA-29	3.41	0.82	0.41	11.22	811	7.79
DA-30	1.56	0.42	0.43	10.0	---	3.88
DA-31	1.27	0.19	0.35	15.0	---	2.21
DA-32	2.68	0.65	0.41	10.39	464	6.30



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DATE 03/21/2013		DRAWING NO. <u>7</u>	FILE
JOB NUMBER CIP: 0A59 IFB: 29-13			
AS SHOWN		OF <u>8</u>	

KCI JOB # 27121947

	DESIGNED <u>NAB</u>	APPROVED <u>3-22-13</u> DATE _____	GRAD. _____
	DRAFTED <u>AKI</u>	 _____ DIRECTOR OF PUBLIC WORKS	PAV. _____
	CHECKED <u>THM</u>		SD _____
			W & S _____
			SWM _____
			OTHER _____

GRAD.	_____
PAV.	_____
SD	_____
W & S	_____
SWM	_____
OTHER	_____

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
MARYLAND AT VINSON ROCKVILLE, MARYLAND

DATE PROJECT STARTED
DATE PROJECT COMPLETED
DATE ACCEPTED BY CITY
DATE TRANS. TO FINANCE
DEPT. W/R 9 FORM

AS BUILT COMPLETED _____ DATE _____

CHIEF INSPECTOR



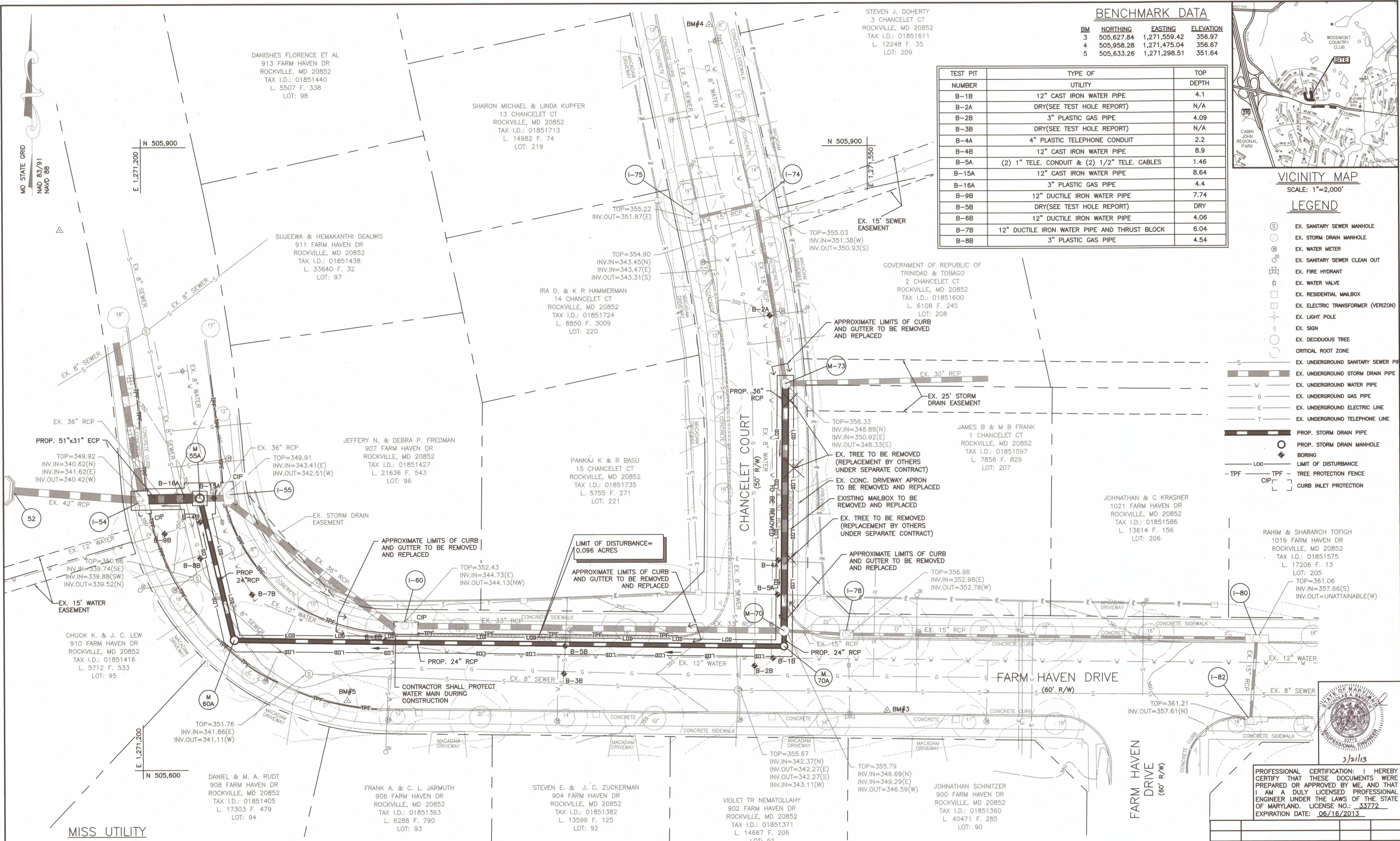
ENGINEERS
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8161 MAPLE LAWN BLVD., SUITE 15
FULTON, MARYLAND 20759
(301) 953-1821 (410) 792-8086
FAX: (410) 792-7419
www.ford.com

CHANCELET COURT STORM DRAIN IMPROVEMENTS DRAINAGE AREA MAP

ROCKVILLE, MARYLAND 20850

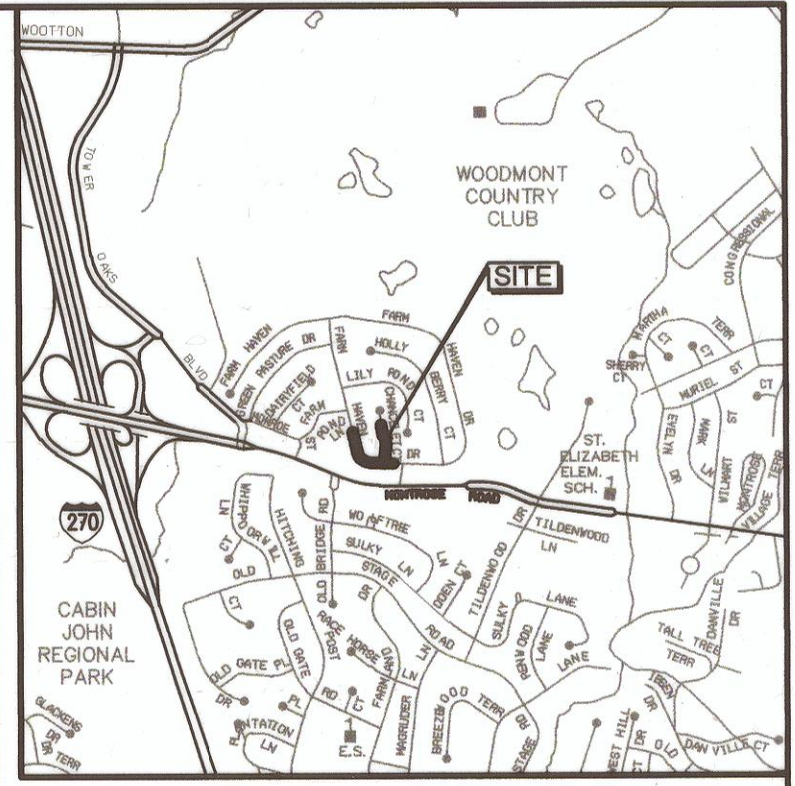
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BENCHMARK DATA

BM	NORTHING	EASTING	ELEVATION
3	505,627.84	1,271,559.42	356.97
4	505,958.28	1,271,475.04	356.67
5	505,633.26	1,271,298.51	351.64

TEST PIT NUMBER	TYPE OF UTILITY	TOP DEPTH
B-1B	12" CAST IRON WATER PIPE	4.1
B-2A	DRY(SEE TEST HOLE REPORT)	N/A
B-2B	3" PLASTIC GAS PIPE	4.09
B-3B	DRY(SEE TEST HOLE REPORT)	N/A
B-4A	4" PLASTIC TELEPHONE CONDUIT	2.2
B-4B	12" CAST IRON WATER PIPE	8.9
B-5A	(2) 1" TELE. CONDUIT & (2) 1/2" TELE. CABLES	1.46
B-15A	12" CAST IRON WATER PIPE	8.64
B-16A	3" PLASTIC GAS PIPE	4.4
B-9B	12" DUCTILE IRON WATER PIPE	7.74
B-5B	DRY(SEE TEST HOLE REPORT)	DRY
B-6B	12" DUCTILE IRON WATER PIPE	4.06
B-7B	12" DUCTILE IRON WATER PIPE AND THRUST BLOCK	6.04
B-8B	3" PLASTIC GAS PIPE	4.54



- VICINITY MAP**
SCALE: 1"=2,000'
- LEGEND**
- EX. SANITARY SEWER MANHOLE
 - EX. STORM DRAIN MANHOLE
 - EX. WATER METER
 - EX. SANITARY SEWER CLEAN OUT
 - EX. FIRE HYDRANT
 - EX. WATER VALVE
 - EX. RESIDENTIAL MAILBOX
 - EX. ELECTRIC TRANSFORMER (VERIZON)
 - EX. LIGHT POLE
 - EX. SIGN
 - EX. DECIDUOUS TREE
 - CRITICAL ROOT ZONE
 - EX. UNDERGROUND SANITARY SEWER PIPE
 - EX. UNDERGROUND STORM DRAIN PIPE
 - EX. UNDERGROUND GAS PIPE
 - EX. UNDERGROUND WATER PIPE
 - EX. UNDERGROUND ELECTRIC LINE
 - EX. UNDERGROUND TELEPHONE LINE
 - PROP. STORM DRAIN PIPE
 - PROP. STORM DRAIN MANHOLE
 - BORING
 - LIMIT OF DISTURBANCE
 - TREE PROTECTION FENCE
 - CURB INLET PROTECTION

SEDIMENT & EROSION CONTROL PLAN
SCALE: 1"=20'

CONTRACTOR TO CONTACT MISS UTILITY AT 1-800-257-7777 AND CITY OF ROCKVILLE UTILITIES SECTION AT 240-314-8567 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.

DESIGNED: NAB
DRAFTED: AKI
CHECKED: THM

APPROVED: 3-22-13
DATE: 3/22/13
DIRECTOR OF PUBLIC WORKS

GRAD. PAV. SD W & S SWM OTHER

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AS BUILT COMPLETED
DATE
CHIEF INSPECTOR

ENGINEERS
PLANNERS
SURVEYORS
CONSTRUCTION MANAGERS
KCI TECHNOLOGIES
8101 MARLA LANE, SUITE 100
FALLS CHURCH, MARYLAND 22041
(703) 955-1021 (410) 792-8086
FAX: (410) 792-2415
www.kci.com

CHANCELET COURT STORM DRAIN IMPROVEMENTS SEC PLAN
ROCKVILLE, MARYLAND 20850

KCI JOB # 27121947

NO.	REVISIONS	APP'D	DATE
1	DATE 03/21/2013		
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3	IFB: 29-13		

SCALE	DRAWING NO.	FILE
AS SHOWN	1	
	OF 4	

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3/21/13

STANDARDS AND SPECIFICATIONS FOR LAND GRADING

DESIGN CRITERIA

THE GRADING PLAN SHOULD BE BASED ON THE INCORPORATION OF BUILDING DESIGNS AND STREET LAYOUTS THAT FIT AND UTILIZE EXISTING TOPOGRAPHY AND DESIRABLE NATURAL SURROUNDINGS TO AVOID EXTREME GRADE MODIFICATIONS. INFORMATION SUBMITTED MUST PROVIDE SUFFICIENT TOPOGRAPHIC SURVEYS AND SOIL INVESTIGATIONS TO DETERMINE LIMITATIONS THAT MUST BE IMPOSED ON THE GRADING OPERATION RELATED TO SLOPE STABILITY, ADJACENT PROPERTIES, DRAINAGE PATTERNS, MEASURES FOR WATER REMOVAL, AND VEGETATIVE TREATMENT, ETC.

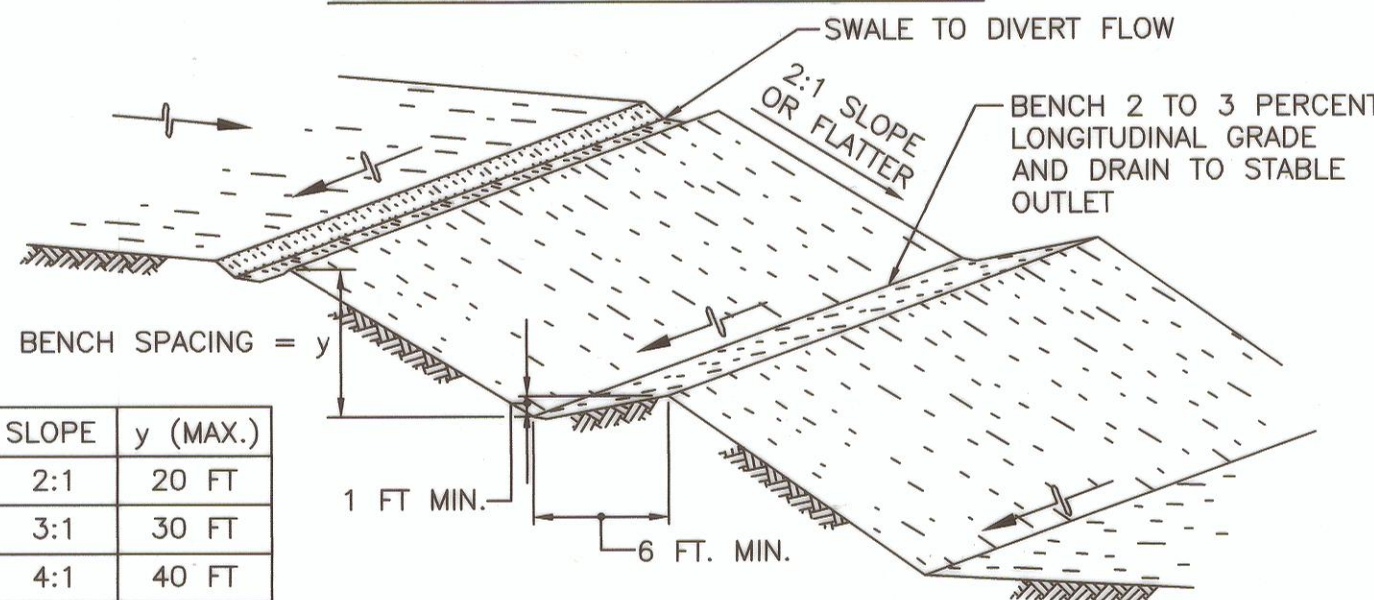
MANY JURISDICTIONS HAVE REGULATIONS AND DESIGN PROCEDURES ALREADY ESTABLISHED FOR LAND GRADING THAT MUST BE FOLLOWED. THE PLAN MUST SHOW EXISTING AND PROPOSED CONTOURS FOR THE AREA(S) TO BE GRADED INCLUDING PRACTICES FOR EROSION CONTROL, SLOPE STABILIZATION, AND SAFE CONVEYANCE OF RUNOFF (E.G., WATERWAYS, LINED CHANNELS, REVERSE BENCHES, GRADE STABILIZATION STRUCTURES). THE GRADING/CONSTRUCTION PLANS ARE TO INCLUDE THE PHASING OF THESE PRACTICES AND CONSIDERATION OF THE FOLLOWING:

- PROVISIONS TO SAFELY CONVEY SURFACE RUNOFF TO STORM DRAINS, PROTECTED OUTLETS OR STABLE WATER COURSES TO ENSURE THAT SURFACE RUNOFF WILL NOT DAMAGE SLOPES OR OTHER GRADED AREAS.
- CUT AND FILL SLOPES, STABILIZED WITH GRASSES, NO STEEPER THAN 2:1. (WHERE THE SLOPE IS TO BE MOWED, THE SLOPE SHOULD BE NO STEEPER THAN 3:1, BUT 4:1 IS PREFERRED BECAUSE OF SAFETY FACTORS RELATED TO MOWING STEEP SLOPES.) SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL DESIGN AND STABILIZATION CONSIDERATIONS TO BE SHOWN ON THE PLANS.
- BENCHING PER DETAIL B-3-1. WHENEVER THE VERTICAL INTERVAL (HEIGHT) OF ANY 2:1 SLOPE EXCEEDS 20 FEET; FOR 3:1 SLOPES, WHEN IT EXCEEDS 30 FEET; AND FOR 4:1 SLOPES, WHEN IT EXCEEDS 40 FEET. LOCATE BENCHES TO DIVIDE THE SLOPE FACE AS EQUALLY AS POSSIBLE AND TO CONVEY THE WATER TO A STABLE OUTLET. SOILS, SEEPS, ROCK OUTCROPS, ETC. ARE TO BE TAKEN INTO CONSIDERATION WHEN DESIGNING BENCHES.
 - PROVIDE BENCHES WITH A MINIMUM WIDTH OF SIX FEET FOR EASE OF MAINTENANCE.
 - DESIGN BENCHES WITH A REVERSE SLOPE OF 6:1 OR FLATTER TO THE TOE OF THE UPPER SLOPE AND WITH A MINIMUM OF ONE FOOT IN DEPTH. GRADE THE LONGITUDINAL SLOPE OF THE BENCH BETWEEN 2 PERCENT AND 3 PERCENT, UNLESS ACCOMPANIED BY APPROPRIATE DESIGN AND COMPUTATIONS.
 - THE MAXIMUM ALLOWABLE FLOW LENGTH WITHIN A BENCH IS 800 FEET UNLESS ACCOMPANIED BY APPROPRIATE DESIGN AND COMPUTATIONS.
- DIVERSION OF SURFACE WATER FROM THE FACE OF ALL CUT AND FILL SLOPES USING EARTH DIKES OR SWALES. CONVEY SURFACE WATER DOWN SLOPE USING A DESIGNED STRUCTURE, AND:
 - PROTECT THE FACE OF ALL GRADED SLOPES FROM SURFACE RUNOFF UNTIL THEY ARE STABILIZED.
 - DO NOT SUBJECT THE SLOPE'S FACE TO ANY CONCENTRATED FLOW OF SURFACE WATER SUCH AS FROM NATURAL DRAINAGE WAYS, GRADED SWALES, DOWNSPOUTS, ETC.
 - PROTECT THE FACE OF THE SLOPE BY SPECIAL EROSION CONTROL MATERIALS TO INCLUDE, BUT NOT BE LIMITED TO, APPROVED VEGETATIVE STABILIZATION PRACTICES, RIPRAP OR OTHER APPROVED STABILIZATION METHODS.
- SERRATED SLOPE AS SHOWN IN DETAIL B-3-2. THE STEEPEST ALLOWABLE SLOPE FOR RIPABLE ROCK IS 1.5:1. FOR NON ROCK SURFACES, THE SLOPES ARE TO BE 2:1 OR FLATTER. THESE STEPS WILL WEATHER AND ACT TO HOLD MOISTURE, LIME, FERTILIZER AND SEED THUS PRODUCING A MUCH QUICKER AND LONGER LIVED VEGETATIVE COVER AND BETTER SLOPE STABILIZATION.
- SUBSURFACE DRAINAGE PROVISIONS. PROVIDE SUBSURFACE DRAINAGE WHERE NECESSARY TO INTERCEPT SEEPAGE THAT WOULD OTHERWISE ADVERSELY AFFECT SLOPE STABILITY OR CREATE EXCESSIVELY WET SITE CONDITIONS.
- PROXIMITY TO ADJACENT PROPERTY. SLOPES MUST NOT BE CREATED CLOSE TO PROPERTY LINES WITHOUT ADEQUATE PROTECTION AGAINST SEDIMENTATION, EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE, OR OTHER RELATED DAMAGES.
- QUALITY OF FILL MATERIAL. FILL MATERIAL MUST BE FREE OF BRUSH, RUBBISH, LOGS, STUMPS, BUILDING DEBRIS, AND OTHER OBJECTIONABLE MATERIAL. DO NOT PLACE FROZEN MATERIALS IN THE FILL NOR PLACE THE FILL MATERIAL ON A FROZEN FOUNDATION.
- STABILIZATION. STABILIZE ALL DISTURBED AREAS STRUCTURALLY OR VEGETATIVELY IN COMPLIANCE WITH SECTION B-4 STANDARDS AND SPECIFICATIONS FOR STABILIZATION PRACTICES.

MAINTENANCE

THE LINE, GRADE, AND CROSS SECTION OF BENCHING AND SERRATED SLOPES MUST BE MAINTAINED. BENCHES AND SERRATED SLOPES MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

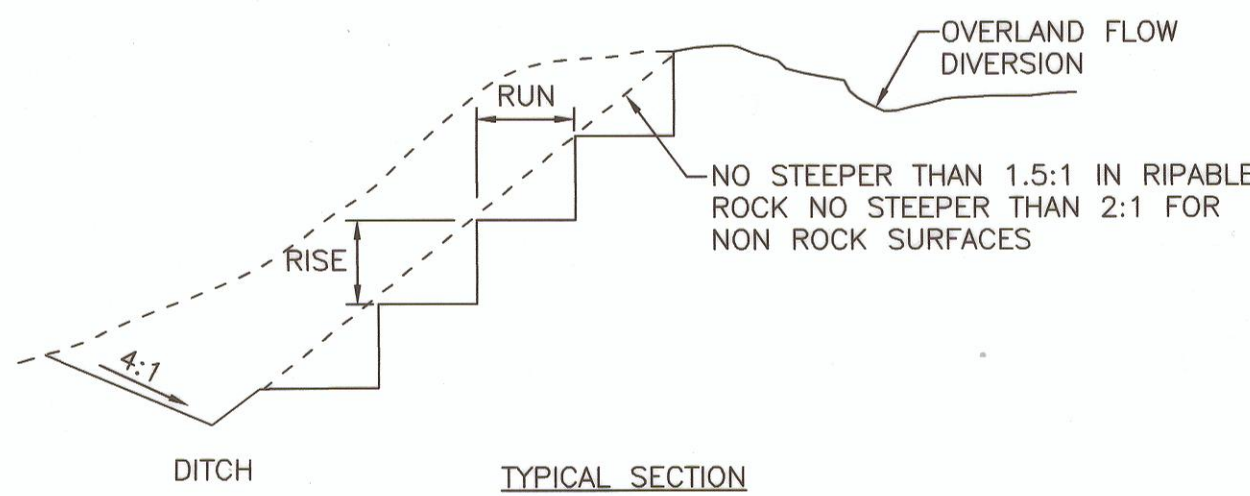
DETAIL B-3-1 BENCHING



CONSTRUCTION SPECIFICATIONS

- USE FILL MATERIAL FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS, AND OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
- DO NOT INCORPORATE FROZEN, SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS INTO FILL SLOPES OR STRUCTURAL FILLS. DO NOT PLACE FILL ON A FROZEN FOUNDATION.
- PLACE ALL FILL IN LOOSE LIFTS NOT TO EXCEED 8 INCHES AND THEN COMPACT.
- COMPACT ALL FILLS AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, OR OTHER RELATED PROBLEMS. COMPACT FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES, CONDUITS, ETC., IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
- HANDLE SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION IN ACCORDANCE WITH SECTION H-2 SUBSURFACE DRAINS OR OTHER APPROVED MEI-IODS.
- MAINTAIN LINE, GRADE, AND CROSS SECTION OF BENCHING. STABILIZE IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION CRITERIA OR AS SPECIFIED ON II-IE APPROVED EROSION AND SEDIMENT CONTROL PLAN. INSTALLATION OF EROSION CONTROL MATTING MAY BE NECESSARY IN BENCH/SWALE INVERTS. CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.
- KEEP ALL BENCHES FREE OF SEDIMENT DURING ALL PHASES OF DEVELOPMENT.

DETAIL B-3-2 SERRATED SLOPES



CONSTRUCTION SPECIFICATIONS

- DIVERT OVERLAND FLOW FROM THE TOP OF ALL SERRATED CUT SLOPES AND CARRY TO A SUITABLE OUTLET.
- MAKE SERRATIONS AS THE EXCAVATION PROGRESSES.
- CONSTRUCT EACH STEP OR SERRATION ON THE CONTOUR. RISE & RUN DIMENSIONS WILL VARY DEPENDING ON THE FINAL SLOPE RATIO. FOR RIPABLE ROCK SURFACES, MAKE TWO FOOT VERTICAL (RISE) AND THREE FOOT HORIZONTAL (RUN) SERRATIONS AT A SLOPE RATIO NO STEEPER THAN 1.5:1. FOR NON ROCK SURFACES, MAKE TWO FOOT VERTICAL (RISE) AND FOUR FOOT HORIZONTAL (RUNS) SERRATIONS AT A SLOPE RATIO NO STEEPER THAN 2:1.
- KEEP ALL BENCHES FREE OF SEDIMENT DURING ALL PHASES OF CONSTRUCTION.
- HANDLE SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION IN ACCORDANCE WITH SECTION H-2 SUBSURFACE DRAINS OR OTHER APPROVED METHODS.
- MAINTAIN LINE, GRADE, AND CROSS SECTION OF SERRATED SLOPES. TEMPORARILY OR PERMANENTLY STABILIZE ALL GRADED, NON ROCK SURFACES IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENTS OR AS SPECIFIED ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN. CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE NATURAL.

STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

PURPOSE

TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL.

CONDITIONS WHERE PRACTICE APPLIES

ON ALL DISTURBED AREAS NOT STABILIZED BY OTHER METHODS. THIS SPECIFICATION IS DIVIDED INTO SECTIONS ON INCREMENTAL STABILIZATION; SOIL PREPARATION, SOIL AMENDMENTS AND TOPSOILING; SEEDING AND MULCHING; TEMPORARY STABILIZATION; AND PERMANENT STABILIZATION.

EFFECTS ON WATER QUALITY AND QUANTITY

STABILIZATION PRACTICES ARE USED TO PROMOTE THE ESTABLISHMENT OF VEGETATION ON EXPOSED SOIL WHEN SOIL IS STABILIZED WITH VEGETATION. THE SOIL IS LESS LIKELY TO ERODE AND MORE LIKELY TO ALLOW INFILTRATION OF RAINFALL. THEREBY REDUCING SEDIMENT LOADS AND RUNOFF TO DOWNSTREAM AREAS. PLANTING VEGETATION IN DISTURBED AREAS WILL HAVE AN EFFECT ON THE WATER BUDGET, ESPECIALLY ON VOLUMES AND RATES OF RUNOFF, INFILTRATION, EVAPORATION, TRANSPIRATION, PERCOLATION, AND GROUNDWATER RECHARGE. OVER TIME, VEGETATION WILL INCREASE ORGANIC MATTER CONTENT AND IMPROVE THE WATER HOLDING CAPACITY OF THE SOIL AND SUBSEQUENT PLANT GROWTH. VEGETATION WILL HELP REDUCE THE MOVEMENT OF SEDIMENT, NUTRIENTS, AND OTHER CHEMICALS CARRIED BY RUNOFF TO RECEIVING WATERS. PLANTS WILL ALSO HELP PROTECT GROUNDWATER SUPPLIES BY ASSIMILATING THOSE SUBSTANCES PRESENT WITHIN THE ROOT ZONE. SEDIMENT CONTROL PRACTICES MUST REMAIN IN PLACE DURING GRADING, SEEDBED PREPARATION, SEEDING, MULCHING, AND VEGETATIVE ESTABLISHMENT.

ADEQUATE VEGETATIVE ESTABLISHMENT

INSPECT SEEDED AREAS FOR VEGETATIVE ESTABLISHMENT AND MAKE NECESSARY REPAIRS, REPLACEMENTS, AND RESEEDINGS WITHIN THE PLANTING SEASON.

- ADEQUATE VEGETATIVE STABILIZATION REQUIRES 95 PERCENT GROUNDCOVER.
- IF AN AREA HAS LESS THAN 40 PERCENT GROUNDCOVER, RESTABILIZE FOLLOWING THE ORIGINAL RECOMMENDATIONS FOR LIME, FERTILIZER, SEEDBED PREPARATION, AND SEEDING.
- IF AN AREA HAS BETWEEN 40 AND 94 PERCENT GROUNDCOVER, OVER-SEED AND FERTILIZE USING HALF OF THE RATES ORIGINALLY SPECIFIED.
- MAINTENANCE FERTILIZER RATES FOR PERMANENT SEEDING ARE SHOWN IN TABLE B.6.

STANDARDS AND SPECIFICATIONS FOR INCREMENTAL STABILIZATION

PURPOSE

TO PROVIDE TIMELY VEGETATIVE COVER ON CUT AND FILL SLOPES AS WORK PROGRESSES.

CONDITIONS WHERE PRACTICE APPLIES

ANY CUT OR FILL SLOPE GREATER THAN 15 FEET IN HEIGHT. THIS PRACTICE ALSO APPLIES TO STOCKPILES.

CRITERIA

- INCREMENTAL STABILIZATION - CUT SLOPES
 - EXCAVATE AND STABILIZE CUT SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL CUT SLOPES AS THE WORK PROGRESSES.
 - CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.1):
 - CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO CONVEY RUNOFF AROUND THE EXCAVATION.
 - PERFORM PHASE 1 EXCAVATION, PREPARE SEEDBED, AND STABILIZE.
 - PERFORM PHASE 2 EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PHASE 1 AREAS AS NECESSARY.
 - PERFORM FINAL PHASE EXCAVATION, PREPARE SEEDBED, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE EXCAVATION HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

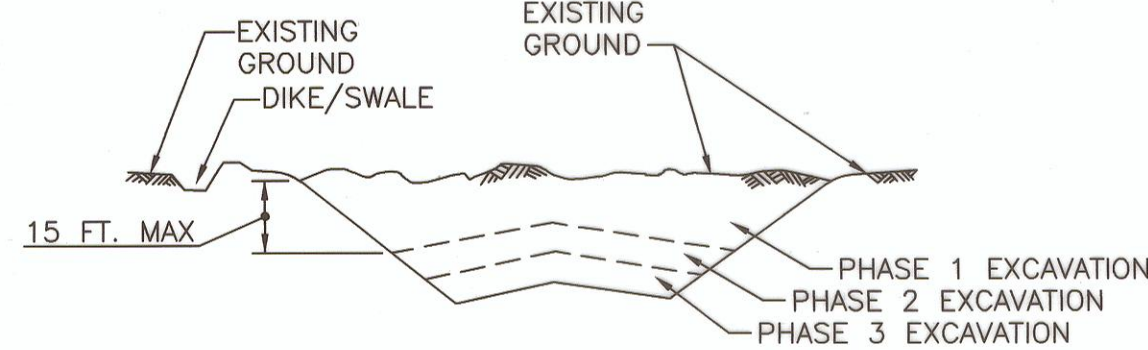


FIGURE B.1: INCREMENTAL STABILIZATION - CUT

- INCREMENTAL STABILIZATION - FILL SLOPES
 - CONSTRUCT AND STABILIZE FILL SLOPES IN INCREMENTS NOT TO EXCEED 15 FEET IN HEIGHT. PREPARE SEEDBED AND APPLY SEED AND MULCH ON ALL SLOPES AS THE WORK PROGRESSES.
 - STABILIZE SLOPES IMMEDIATELY WHEN THE VERTICAL HEIGHT OF A LIFT REACHES 15 FEET, OR WHEN THE GRADING OPERATION CEASES AS PRESCRIBED IN THE PLANS.
 - AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS NECESSARY, TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER.
 - CONSTRUCTION SEQUENCE EXAMPLE (REFER TO FIGURE B.2):
 - CONSTRUCT AND STABILIZE ALL TEMPORARY SWALES OR DIKES THAT WILL BE USED TO DIVERT RUNOFF AROUND THE FILL. CONSTRUCT SILT FENCE ON LOW SIDE OF FILL UNLESS OTHER METHODS SHOWN ON THE PLANS ADDRESS THIS AREA.
 - AT THE END OF EACH DAY, INSTALL TEMPORARY WATER CONVEYANCE PRACTICE(S), AS NECESSARY, TO INTERCEPT SURFACE RUNOFF AND CONVEY IT DOWN THE SLOPE IN A NON-EROSIVE MANNER.
 - PLACE PHASE 1 FILL, PREPARE SEEDBED, AND STABILIZE.
 - PLACE PHASE 2 FILL, PREPARE SEEDBED, AND STABILIZE.
 - PLACE FINAL PHASE FILL, PREPARE SEEDBED, AND STABILIZE. OVERSEED PREVIOUSLY SEEDED AREAS AS NECESSARY.

NOTE: ONCE THE PLACEMENT OF FILL HAS BEGUN THE OPERATION SHOULD BE CONTINUOUS FROM GRUBBING THROUGH THE COMPLETION OF GRADING AND PLACEMENT OF TOPSOIL (IF REQUIRED) AND PERMANENT SEED AND MULCH. ANY INTERRUPTIONS IN THE OPERATION OR COMPLETING THE OPERATION OUT OF THE SEEDING SEASON WILL NECESSITATE THE APPLICATION OF TEMPORARY STABILIZATION.

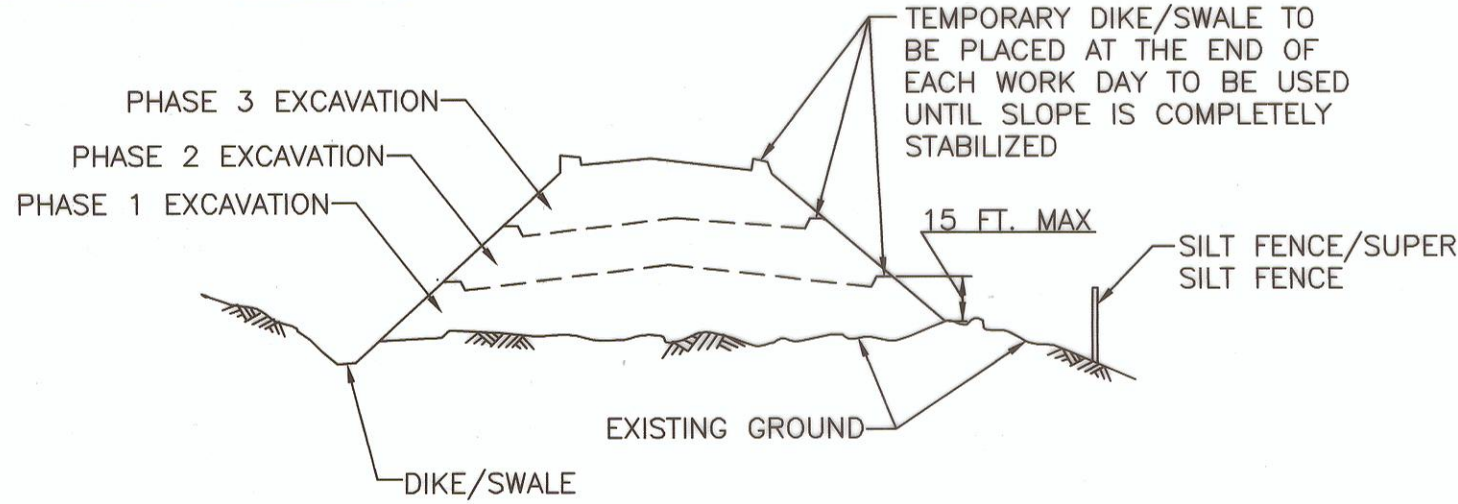


FIGURE B.2: INCREMENTAL STABILIZATION - FILL

STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

PURPOSE

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

CONDITIONS WHERE PRACTICE APPLIES

WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

CRITERIA

- SOIL PREPARATION
 - TEMPORARY STABILIZATION
 - SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
 - APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
 - INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

- PERMANENT STABILIZATION
 - A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
 - SOIL PH BETWEEN 6.0 AND 7.0.
 - SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
 - SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.
 - SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
 - SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
 - APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
 - GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.
 - APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.
 - MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.
- TOPSOILING
 - TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.
 - TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-NRCS.
 - TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
 - THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
 - THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
 - THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
 - THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
 - AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN.
 - TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING CRITERIA:
 - TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2 INCHES IN DIAMETER.
 - TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
 - TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.
 - TOPSOIL APPLICATION
 - EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.
 - UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
 - TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
 - SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)
 - SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.
 - FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.
 - LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH SIEVE.
 - LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
 - WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE
 - RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.



PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO.: 33772 EXPIRATION DATE: 06/16/2013

	DESIGNED	NAB	APPROVED	3-22-13	DATE	GRAD.		DEPARTMENT OF PUBLIC WORKS	DATE PROJECT STARTED		AS BUILT COMPLETED			CHANCELET COURT STORM DRAIN IMPROVEMENTS SEC NOTES & DETAILS ROCKVILLE, MARYLAND 20850	KCI JOB # 27121947	NO.	REVISIONS	APPD	DATE	FILE
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STANDARDS AND SPECIFICATIONS
FOR SEEDING AND MULCHING

PURPOSE

TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

CONDITIONS WHERE PRACTICE APPLIES

TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE GRADING.

CRITERIA

- SEEDING
 - SPECIFICATIONS
 - ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.
 - MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE APPLIED WHEN THE GROUND THAWS.
 - INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER. ADD FRESH INOCULANTS AS DIRECTED ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.
 - SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

B. APPLICATION

- DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.
- INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.
- APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
- DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
- CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.
- APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
- HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER)
 - IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P2O5 (PHOSPHOROUS), 200 POUNDS PER ACRE; K2O (POTASSIUM), 200 POUNDS PER ACRE.
 - LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNED OR HYDRATED LIME WHEN HYDROSEEDING.
 - MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.
 - WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

2. MULCHING

A. MULCH MATERIALS (IN ORDER OF PREFERENCE)

- STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDED, OAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.
- WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
 - WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORM SPREAD SLURRY.
 - WCFM, INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
 - WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.
 - WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.
 - WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 1 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.

B. APPLICATION

- APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
- WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.
- WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
- ANCHORING
 - PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:
 - A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE THE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.
 - WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
 - SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

STANDARDS AND SPECIFICATIONS
FOR TEMPORARY STABILIZATION

PURPOSE

TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

CRITERIA

- SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.
- FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
- WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

TEMPORARY SEEDING TABLE						
HARDINESS ZONE (FROM FIGURE B.3): 6B					FERTILIZER RATE (10-20-20)	LIME RATE
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS		
1	BARLEY	96	3/1-5/31 8/1-10/15	1.0"	436 LB/AC (10LB/1000SF)	2 TONS/AC (90LB/1000SF)
2	CEREAL RYE	112	3/1-5/15 8/1-11/15	1.0"		
3	FOXTAIL MILLET	30	5/16-7/31	0.5"		

STANDARDS AND SPECIFICATIONS
FOR PERMANENT STABILIZATION

PURPOSE

TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

CRITERIA

- SEED MIXTURES
 - GENERAL USE
 - SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
 - ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.
 - FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES RECOMMENDED BY THE SOIL TESTING AGENCY.
 - FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER (46-0-0) AT 3 1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE) AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE PERMANENT SEEDING SUMMARY.
 - TURFGRASS MIXTURES
 - AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE.
 - SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.
 - KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
 - KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE PER 1000 SQUARE FEET. CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.
 - TALL FESCUE/KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN DROUGHT PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES: CERTIFIED TALL FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.
 - KENTUCKY BLUEGRASS/FINE FESCUE: SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA. MIXTURE INCLUDES: CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1 1/2 TO 3 POUNDS PER 1000 SQUARE FEET.
- NOTES:
 - SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND PUBLICATION, AGRONOMY #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND" CHOOSE CERTIFIED MATERIAL. CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION, PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE.
 - IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES
 - WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A)
 - CENTRAL MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B)
 - SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONES: 7A, 7B)

- TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER SEEDED. REMOVE STONES AND DEBRIS OVER 1 1/2 INCHES IN DIAMETER. THE RESULTING SEEDED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF GRASSES WILL POSE NO DIFFICULTY.
- IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR HOT SEASONS, OR ON ADVERSE SITES.

PERMANENT SEEDING TABLE					FERTILIZER RATE (10-20-20)			LIME RATE
HARDINESS ZONE (FROM FIGURE B.3): 6B					N	P2O5	K2O	
NO.	SPECIES	APPLICATION RATE (LB/AC)	SEEDING DATES	SEEDING DEPTHS				
4	DEERTONGUE CREEPING RED FESCUE	15	3/1-5/15	0.5"	45LB/AC (1LB/1000SF)	90LB/AC (2LB/1000SF)	90LB/AC (2LB/1000SF)	2 TONS/AC (90LB/1000SF)
	VIRGINIA WILD RYE	20	5/16-6/15					
6	TALL FESCUE PERENNIAL RYEGRASS	40	3/1-5/15	0.5"	45LB/AC (1LB/1000SF)	90LB/AC (2LB/1000SF)	90LB/AC (2LB/1000SF)	2 TONS/AC (90LB/1000SF)
	WHITE CLOVER	25	8/1-10/15					
9	TALL FESCUE KENTUCKY BLUEGRASS	60	3/1-5/15	0.5"	45LB/AC (1LB/1000SF)	90LB/AC (2LB/1000SF)	90LB/AC (2LB/1000SF)	2 TONS/AC (90LB/1000SF)
		40	8/1-10/15					

- SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).
 - GENERAL SPECIFICATIONS
 - CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.
 - SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/8 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
 - STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
 - SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
 - SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.
 - SOD INSTALLATION
 - DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE OR IN AREAS HAVING DRY SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.
 - LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF THE ROOTS.
 - WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.
 - WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.
 - SOD MAINTENANCE
 - IN THE ABSENCE OF ADEQUATE RAINFALL, WATER DAILY DURING THE FIRST WEEK OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT WILTING.
 - AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.
 - DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/2 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE SPECIFIED.

		WOVEN SILT FILM GEOTEXTILE		WOVEN MONOFILAMENT GEOTEXTILE		NONWOVEN GEOTEXTILE	
		MD	CD	MD	CD	MD	CD
PROPERTY		MINIMUM AVERAGE ROLL VALUE					
TEST METHOD		MD	CD	MD	CD	MD	CD
GRAB TENSILE STRENGTH	ASTM D-4632	200 LB	200 LB	370 LB	250 LB	200 LB	200 LB
GRAB TENSILE ELONGATION	ASTM D-4632	15%	10%	15%	15%	50%	50%
TRAPEZOIDAL TEAR STRENGTH	ASTM D-4533	75 LB	75 LB	100 LB	60 LB	80 LB	80 LB
PUNCTURE STRENGTH	ASTM D-6241	450 LB		900 LB		450 LB	
APPARENT OPENING SIZE ²	ASTM D-4751	U.S. SIEVE 30 (0.59 mm)		U.S. SIEVE 70 (0.21 mm)		U.S. SIEVE 70 (0.21 mm)	
PERMITTIVITY	ASTM D-4491	0.05 SEC ⁻¹		0.28 SEC ⁻¹		1.1 SEC ⁻¹	
ULTRAVIOLET RESISTANCE RETAINED AT 500 HOURS	ASTM D-4355	70% STRENGTH		70% STRENGTH		70% STRENGTH	

¹ ALL NUMERIC VALUES EXCEPT APPARENT OPENING SIZE (AOS) REPRESENT MINIMUM AVERAGE ROLL VALUES (MARV). MARV IS CALCULATED AS THE TYPICAL MINUS TWO STANDARD DEVIATIONS. MD IS MACHINE DIRECTION; CD IS CROSS DIRECTION.

² VALUES FOR AOS REPRESENT THE AVERAGE MAXIMUM OPENING.

GEOTEXTILES MUST BE EVALUATED BY THE NATIONAL TRANSPORTATION PRODUCT EVALUATION PROGRAM (NTPPE) AND CONFORM TO THE VALUES IN TABLE H.1.

THE GEOTEXTILE MUST BE INERT TO COMMONLY ENCOUNTERED CHEMICALS AND HYDROCARBONS AND MUST BE ROT AND MILDEW RESISTANT. THE GEOTEXTILE MUST BE MANUFACTURED FROM FIBERS CONSISTING OF LONG CHAIN SYNTHETIC POLYMERS AND COMPOSED OF A MINIMUM OF 95 PERCENT BY WEIGHT OF POLYOLEFINS OR POLYESTERS, AND FORMED INTO A STABLE NETWORK SO THE FILAMENTS OR YARNS RETAIN THEIR DIMENSIONAL STABILITY RELATIVE TO EACH OTHER, INCLUDING SELVAGES.

WHEN MORE THAN ONE SECTION OF GEOTEXTILE IS NECESSARY, OVERLAP THE SECTIONS BY AT LEAST ONE FOOT. THE GEOTEXTILE MUST BE PULLED TAUT OVER THE APPLIED SURFACE. EQUIPMENT MUST NOT RUN OVER EXPOSED FABRIC. WHEN PLACING RIPRAP ON GEOTEXTILE, DO NOT EXCEED A ONE FOOT DROP HEIGHT.

TABLE H.2: STONE SIZE

TYPE	SIZE RANGE	D ₅₀	D ₁₀₀	AASHTO	MIDSIZE WEIGHT ¹
NUMBER 5 ²	3/8 TO 1-1/2 INCH	1/2 IN	1-1/2 IN	M-43	N/A
NUMBER 1	2 TO 3 INCH	2-1/2 IN	3 IN	M-43	N/A
RIPRAP ² (CLASS 0)	4 TO 7 INCH	5-1/2 IN	7 IN	N/A	N/A
CLASS I	N/A	9-1/2 IN	15 IN	N/A	40 LB
CLASS II	N/A	16 IN	24 IN	N/A	200 LB
CLASS III	N/A	23 IN	34 IN	N/A	600 LB

¹ THIS CLASSIFICATION IS TO BE USED ON THE UPSTREAM FACE OF STONE OUTLETS AND CHECK DAMS.

² THIS CLASSIFICATION IS TO BE USED FOR GABIONS.

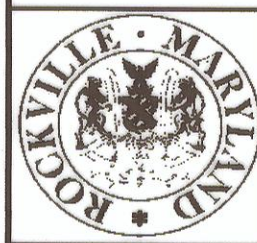
³ OPTIMUM GRADATION IS 50 PERCENT OF THE STONE BEING ABOVE AND 50 PERCENT BELOW THE MIDSIZE.

STONE MUST BE COMPOSED OF A WELL GRADED MIXTURE OF STONE SIZED SO THAT FIFTY (50) PERCENT OF THE PIECES BY WEIGHT ARE LARGER THAN THE SIZE DETERMINED BY USING THE CHARTS. A WELL GRADED MIXTURE, AS USED HEREIN, IS DEFINED AS A MIXTURE COMPOSED PRIMARILY OF LARGER STONE SIZES BUT WITH A SUFFICIENT MIXTURE OF OTHER SIZES TO FILL THE SMALLER VOIDS BETWEEN THE STONES. THE DIAMETER OF THE LARGEST STONE IN SUCH A MIXTURE MUST NOT EXCEED THE RESPECTIVE D₁₀₀ SELECTED FROM TABLE H.2. THE D₅₀ REFERS TO THE MEDIAN DIAMETER OF THE STONE. THIS IS THE SIZE FOR WHICH 50 PERCENT, BY WEIGHT, WILL BE SMALLER AND 50 PERCENT WILL BE LARGER.

NOTE: RECYCLED CONCRETE EQUIVALENT MAY BE SUBSTITUTED FOR ALL STONE CLASSIFICATIONS FOR TEMPORARY CONTROL MEASURES ONLY. CONCRETE BROKEN INTO THE SIZES MEETING THE APPROPRIATE CLASSIFICATION, CONTAINING NO STEEL REINFORCEMENT, AND HAVING A MINIMUM DENSITY OF 150 POUNDS PER CUBIC FOOT MAY BE USED AS AN EQUIVALENT.



PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO.: 33772
EXPIRATION DATE: 06/16/2013



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DRAFTED AKI
CHECKED THM

APPROVED 3-22-13
DATE
DIRECTOR OF PUBLIC WORKS

GRAD. _____
PAV. _____
SD _____
W & S _____
SWM _____
OTHER _____

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
MARYLAND AT VINSON ROCKVILLE, MARYLAND

DATE PROJECT STARTED _____
DATE PROJECT COMPLETED _____
DATE ACCEPTED BY CITY _____
DATE TRANS. TO FINANCE DEPT. W/R 9 FORM _____

AS BUILT COMPLETED _____
DATE _____
CHIEF INSPECTOR _____

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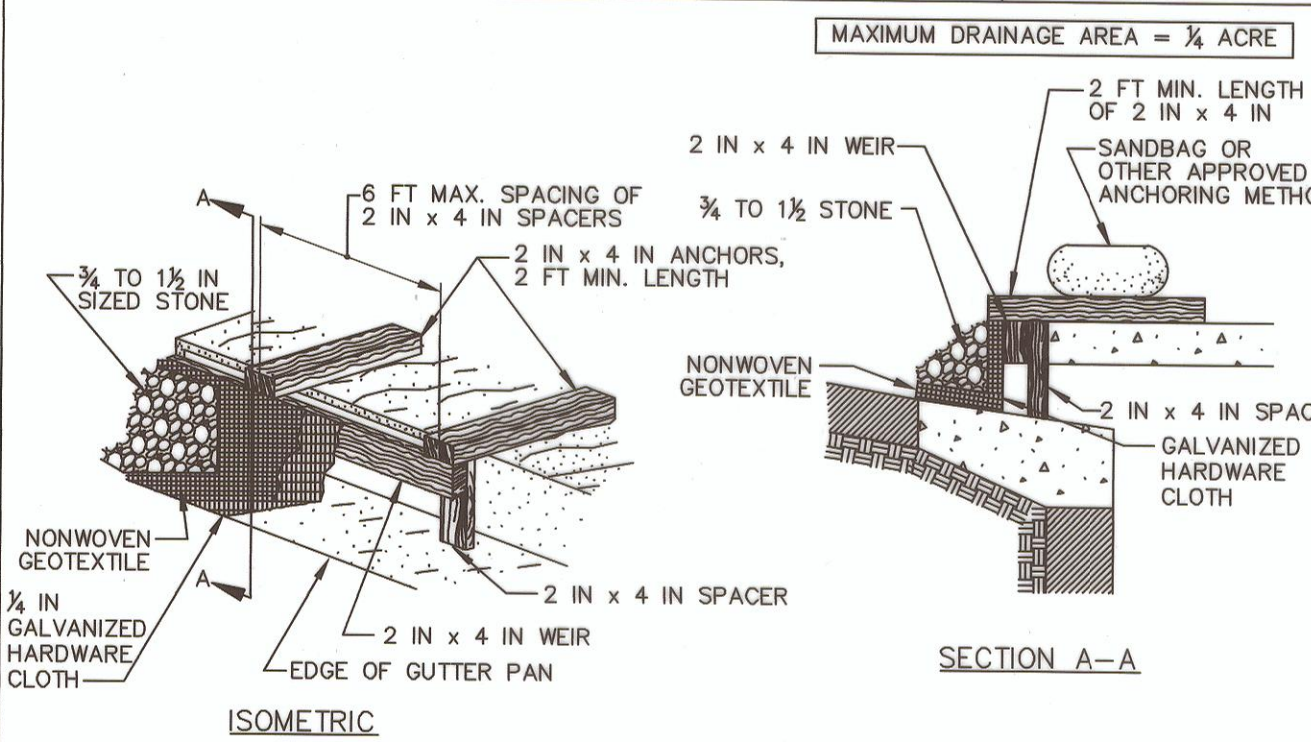
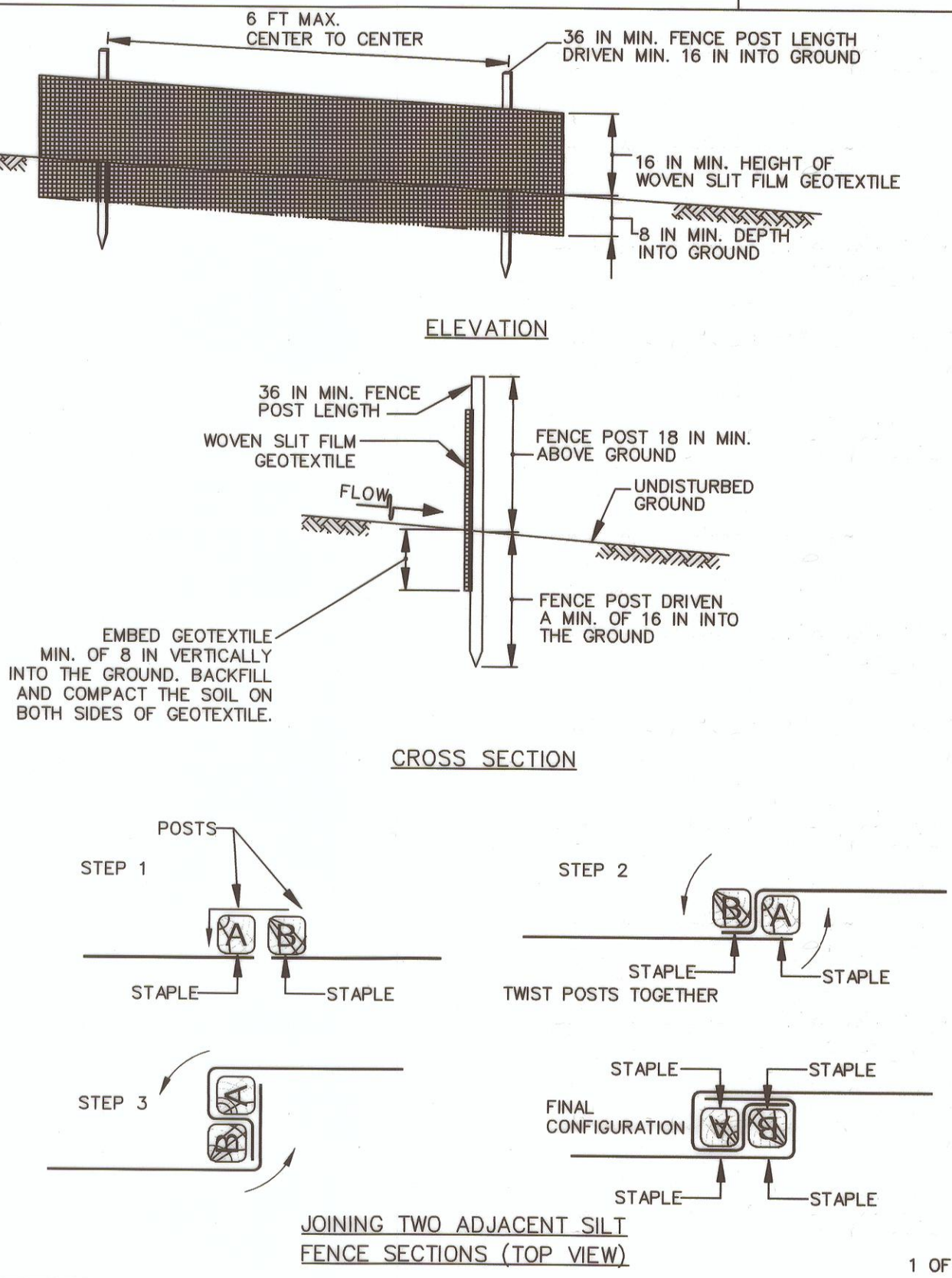
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STORM DRAIN IMPROVEMENTS
SEC NOTES & DETAILS
ROCKVILLE, MARYLAND 20850

KCI JOB # 27121947		NO.		REVISIONS	APPD	DATE
		DATE		SCALE	DRAWING	FILE
		03/21/2013		AS SHOWN	NO. 3	
		JOB NUMBER CIP: 0459			OF 4	
		IFB: 29-13				

EROSION AND SEDIMENT CONTROL NOTES

1. THE APPLICANT MUST OBTAIN INSPECTION AND APPROVAL BY THE CITY OF ROCKVILLE DEPARTMENT OF PUBLIC WORKS (DPW) AT THE FOLLOWING POINTS:
- a. AT THE REQUIRED PRECONSTRUCTION MEETINGS.
- b. FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES AND PRIOR TO ANY OTHER LAND DISTURBING ACTIVITY.
- c. DURING THE INSTALLATION OF A SEDIMENT BASIN OR STORMWATER MANAGEMENT STRUCTURE AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN). NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION IS MANDATORY.
- d. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL DEVICES.
- e. PRIOR TO FINAL ACCEPTANCE.
2. ALL EROSION CONTROL MEASURES ARE TO BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH APPLICABLE PUBLISHED STANDARDS AND SPECIFICATIONS AND THE MOST CURRENT "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL."
3. THE APPLICANT SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE. SHALL HAVE THEM INSPECTED AND APPROVED BY DPW PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES. SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURES WITHOUT PRIOR PERMISSION FROM DPW.
4. ANY REQUEST FOR CHANGES TO THE APPROVED SEDIMENT CONTROL PLAN OR SEQUENCE OF CONSTRUCTION MUST BE SUBMITTED TO THE DPW SEDIMENT CONTROL INSPECTOR AND APPROVED BEFORE IMPLEMENTING CHANGES. MAJOR CHANGES WILL REQUIRE A PLAN REVISION.
5. THE APPLICANT SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO TRAVERSED PUBLIC THOROUGHFARE(S). ALL MATERIALS DEPOSITED ONTO PUBLIC THOROUGHFARE(S) SHALL BE REMOVED IMMEDIATELY.
6. THE APPLICANT SHALL INSPECT DAILY AND MAINTAIN CONTINUOUSLY IN EFFECTIVE OPERATING CONDITION ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIME AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM THE DPW SEDIMENT CONTROL INSPECTOR.
7. ALL SEDIMENT BASINS, TRAP EMBANKMENTS, SWALES, PERIMETER DIKES AND PERMANENT SLOPES STEEPER OR EQUAL TO 3:1 SHALL BE STABILIZED WITH SOD, SEED AND ANCHORED STRAW MULCH OR OTHER APPROVED STABILIZATION MEASURES, WITHIN SEVEN CALENDAR DAYS OF ESTABLISHMENT. ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST BE MINIMIZED AND STABILIZED IMMEDIATELY. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. RESTABILIZATION OR OVERSEEDING WILL BE REQUIRED, IF NECESSARY.
8. THE APPLICANT SHALL APPLY SOD, SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS WITHIN 3 CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED ON THAT AREA. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. ACTIVE CONSTRUCTION AREAS, SUCH AS BORROW OR STOCKPILE AREAS, ROADWAY IMPROVEMENTS AND AREAS WITHIN 50- FEET OF A BUILDING UNDER CONSTRUCTION MAY BE EXEMPTED FROM THIS REQUIREMENT, PROVIDED THAT EROSION AND SEDIMENT CONTROL MEASURES ARE INSTALLED AND MAINTAINED TO PROTECT THOSE AREAS. STOCKPILES, WHICH HAVE NOT BEEN USED FOR 14 CALENDAR DAYS, SHALL BE STABILIZED THROUGH THE APPLICATION OF SOD, SEED AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES.
9. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE APPLICANT SHALL STABILIZE ALL CONTRIBUTORY DISTURBED AREAS USING SOD OR AN APPROVED PERMANENT SEED MIXTURE WITH REQUIRED SOIL AMENDMENTS AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON TO PROMOTE DRAINAGE AREAS. SHEET FLOW DRAINAGE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED WITHIN 7 CALENDAR DAYS OF ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, APPROVED TEMPORARY SEED AND STRAW ANCHORED MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE COMPLETED PRIOR TO THE FOLLOWING APRIL 15.
10. THE SITE WORK, MATERIALS, APPROVED SEDIMENT CONTROL AND STORMWATER MANAGEMENT PLANS AND ANY REQUIRED TEST REPORTS SHALL BE AVAILABLE, AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF THE CITY OF ROCKVILLE.
11. SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVELING THE SLOPES OR BY INSTALLING MECHANICAL DEVICES TO LOWER THE WATER DOWNSLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF CUT OR FILL SLOPES UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE FULLY STABILIZED, AT WHICH TIME THEY MUST BE REMOVED AND FINAL GRADING DONE TO PROMOTE SHEET FLOW DRAINAGE. MECHANICAL DEVICES MUST BE PROVIDED AT POINTS OF CONCENTRATED FLOW WHERE EROSION IS LIKELY TO OCCUR.
12. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITH SOD OR SEED WITH APPROVED EROSION CONTROL MATTING OR BY OTHER APPROVED STABILIZATION MEASURES.
13. TEMPORARY SEDIMENT CONTROL DEVICES SHALL BE REMOVED, WITH PERMISSION OF DPW, WITHIN 30 CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. IF ESTABLISHMENT IS NOT FULL AND UNIFORM AS DETERMINED BY THE DPW SEDIMENT CONTROL INSPECTOR, OVERSEEDING WILL BE REQUIRED. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL.
14. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN AREAS THAT ARE NOT TO BE MAINTAINED PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH A LOW-MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATIVE STABILIZATION.
15. THE APPLICANT SHALL INSTALL A SPLASH BLOCK AT THE BOTTOM OF EACH DOWNSPOUT UNLESS THE DOWNSPOUT IS CONNECTED BY A DRAIN LINE TO AN ACCEPTABLE OUTLET.
16. ALL WATER PUMPED FROM AN EXCAVATION DURING CONSTRUCTION SHALL BE PUMPED EITHER TO SEDIMENT TANKS AND/OR SEDIMENT TRAPS. NO WATER WILL BE PUMPED TO THE STORM DRAIN SYSTEM OR SWALE. DE-WATERING SHALL BE PERFORMED IN ACCORDANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
17. FOR FINISHED GRADING, THE APPLICANT SHALL PROVIDE ADEQUATE GRADIENTS SO AS TO: (1) PREVENT WATER FROM STANDING ON THE SURFACE OF LAWNS MORE THAN 24 HOURS AFTER THE END OF A RAINFALL, EXCEPT IN DESIGNATED DRAINAGE COURSES AND SWALE FLOW AREAS WHICH MAY DRAIN AS LONG AS 48 HOURS AFTER THE END OF A RAINFALL, AND (2) PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDING FOUNDATIONS OR OPENINGS.
18. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A BUILDING, WHICH EXISTS OR IS UNDER CONSTRUCTION. NO BUILDING MAY BE CONSTRUCTED WITHIN 20 FEET OF A SEDIMENT TRAP OR BASIN.
19. ALL INLETS IN NON-SUMP AREAS SHALL HAVE ASPHALT BERMS INSTALLED AT THE TIME OF BASE PAVING TO DIRECT RUNOFF TO INLETS.
20. THE DPW SEDIMENT CONTROL INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SEDIMENT CONTROL MEASURES, IF DEEMED NECESSARY.
21. ALL TRAP ELEVATIONS ARE RELATIVE TO THE OUTLET ELEVATION, WHICH MUST BE ON EXISTING UNDISTURBED GROUND.
22. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
23. TEMPORARY SEDIMENT TRAP(S) SHALL BE CLEANED OUT AND RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO A POINT ONE-HALF THE DEPTH BETWEEN THE OUTLET CREST AND THE BOTTOM OF THE TRAP.

24. SEDIMENT REMOVED FROM TRAPS SHALL BE PLACED AND STABILIZED IN APPROVED AREAS IN SUCH A MANNER THAT IT DOES NOT FOUL EXISTING OR PROPOSED STORM DRAINAGE SYSTEMS OR AREAS ALREADY STABILIZED. SEDIMENT SHALL NOT BE PLACED WITHIN A FLOOD PLAIN OR WETLAND.
25. ALL SEDIMENT BASINS AND TRAPS MUST BE SURROUNDED WITH A WELDED WIRE SAFETY FENCE. THE FENCE MUST BE AT LEAST 42-INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8- FEET, HAVE MESH OPENINGS NO GREATER THAN 2-INCHES IN WIDTH AND 4-INCHES IN HEIGHT WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE MUST BE MAINTAINED IN GOOD CONDITION AT ALL TIMES.
26. OFF-SITE SPOIL OR BORROW AREAS MUST HAVE APPROVED SEDIMENT CONTROL PLANS.
27. PROTECT ALL TREES TO BE PRESERVED DURING CONSTRUCTION IN ACCORDANCE WITH THE APPROVED FOREST CONSERVATION PLAN.
28. THE APPLICANT IS RESPONSIBLE FOR ALL ACTIONS OF CONTRACTOR AND SUBCONTRACTORS, INCLUDING REPAIRING DAMAGE TO SEDIMENT CONTROL DEVICES AND EXISTING INFRASTRUCTURE.
29. THE APPLICANT SHALL COMPLY WITH ALL PROVISIONS OF THE NPDES CONSTRUCTION DISCHARGE PERMIT. A COPY OF THE PERMIT AND ALL REQUIRED REPORTS SHALL BE AVAILABLE ON SITE AT ALL TIMES.

DETAIL E-9-3 CURB INLET PROTECTION		DETAIL E-1 SILT FENCE	
			
CONSTRUCTION SPECIFICATIONS <ol style="list-style-type: none">USE NOMINAL 2 INCH x 4 INCH LUMBERUSE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).ATTACH A CONTINUOUS PIECE OF 1/4 INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN 3/4 TO 1 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE.AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.		CONSTRUCTION SPECIFICATIONS <ol style="list-style-type: none">USE WOOD POSTS 1 1/2 x 1 1/2 x 1/8 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD, AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.	
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION		MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION	
DETAIL E-1 SILT FENCE STANDARD SYMBOL SF		DETAIL E-1 SILT FENCE STANDARD SYMBOL SF	
2 OF 2		1 OF 2	



DESIGNED	NAB	APPROVED	3-22-13	GRAD.	_____
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CHECKED	THM			SD	_____
				W & S	_____
				SVM	_____
				OTHER	_____

DEPARTMENT OF PUBLIC WORKS
CITY OF
ROCKVILLE
MARYLAND AT VINSON ROCKVILLE, MARYLAND

DATE PROJECT STARTED	_____	AS BUILT COMPLETED	_____
DATE PROJECT COMPLETED	_____	DATE	_____
DATE ACCEPTED BY CITY	_____		_____
DATE TRANS. TO FINANCE	_____		_____
DEPT. W/R 9 FORM	_____	CHIEF INSPECTOR	_____



CHANCELET COURT
STORM DRAIN IMPROVEMENTS
SEC NOTES & DETAILS
ROCKVILLE, MARYLAND 20850

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO.: 33772
EXPIRATION DATE: 06/16/2013

NO.	REVISIONS	APPD	DATE
03/21/2013	SCALE	DRAWING	FILE
JOB NUMBER CIP: 0A59 IFB: 29-13	AS SHOWN	NO. 4 OF 4	